

PHASE I INITIAL SITE INVESTIGATION REPORT

ATF DAVIDSON 1 MAIN STREET WHITINSVILLE, MASSACHUSETTS

RTN 2-0111

MARCH 1997

PREPARED BY

NEAL M. DRAWAS, LSP KROLL ASSOCIATES, INC. 900 THIRD AVENUE NEW YORK, NEW YORK 10022





Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL Release Tracking Number FORM & PHASE I COMPLETION STATEMENT?

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

0000111

| A. SITE LOCATION: Site Name: (optional) ATF Davidson | 回 |
|--|--------------|
| Street: 355 Main Street Location Aid: Opposite Arcade Pond | ЩЦ |
| City/Town: Northbridge zIP Code: 01588UU 12 1997 | الا |
| Related Release Tracking Numbers that this Form Addresses: | |
| Tier Classification: (check one of the following) | sified |
| If a Tier I Permit has been issued, state the Permit Number: Reclassification of Default Tier IB | |
| B. THIS FORM IS BEING USED TO: (check all that apply) | • • |
| X Submit a Phase I Completion Statement, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J). | * |
| Submit a Phase II Scope of Work, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J). | ¥ |
| Submit a final Phase II Comprehensive Site Report and Completion Statement, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J). | 8 1 3 |
| Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I a | and J). |
| Submit a Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J). | |
| Submit an As-Built Construction Report, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J). | |
| Submit a Phase IV Final Inspection Report and Completion Statement, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A. B. C, E, G, H, I and J). | 845 |
| Submit a periodic Phase V Inspection & Monitoring Report, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J). | 4 |
| Submit a final Phase V Inspection & Monitoring Report and Completion Statement, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J). | • |
| You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400. | |
| C. RESPONSE ACTIONS: | |
| Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.) | |
| Describe Technologies: | |
| D. PHASE II COMPLETION STATEMENT: | - |
| Specify the outcome of the Phase II Comprehensive Site Assessment: | |
| Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment | t. |
| The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-10 will be submitted to DEP. |)4) |
| The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-10 will be submitted to DEP. | 4) |
| Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report. | _ |
| E. PHASE IV COMPLETION STATEMENT: | |
| Specify the outcome of Phase IV activities: | |
| Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.) | * |
| The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. | D |
| The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP. SECTION E IS CONTINUED ON THE NEXT PAGE | o · |
| SECTION E IS CONTINUED ON THE NEXT PAGE | |



Massachusetts Department of Environmental Protection

BWSC-108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL Release Tracking Number FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

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| E. F | PHASE IV COMPLETION STATEMENT: (continued) | |
|---------------------|--|--|
| • | The requirements of a Class C Response Action Outcome have been met. Fur is necessary to ensure that conditions are maintained and that further progress Action Outcome Statement (BWSC-104) will be submitted to DEP. | ther operation, maintenance or monitoring of the remedial action is made toward a Permanent Solution. A completed Response |
| | Indicate whether the operation and maintenance will be Active or Passive. (Act | ive Operation and Maintenance is defined at 310 CMR 40.0006.): |
| 1 | Active Operation and Maintenance | Passive Operation and Maintenance |
| • | (Active Operation and Maintenance makes the Site subject to a Post-RAO Class | s C Active Operation and Maintenance Annual Compliance Fee.) |
| F. F | PHASE V COMPLETION STATEMENT: | of a cold have an extended. |
| Spe | pecify the outcome of Phase V activities: | |
| | The requirements of a Class A Response Action Outcome have been met and will be submitted to DEP. | a completed Response Action Outcome Statement (BWSC-104) |
| | The requirements of a Class C Response Action Outcome have been met. No ensure the integrity of the Response Action Outcome. A completed Response | additional operation, maintenance or monitoring is necessary to Action Outcome Statement (BWSC-104) will be submitted to DEP. |
| | The requirements of a Class C Response Action Outcome have been met. Fur is necessary to ensure that conditions are maintained and that further progress Action Outcome Statement (BWSC-104) will be submitted to DEP. | |
| | Indicate whether the operation and maintenance will be Active or Passive. (Act | ive Operation and Maintenance is defined at 310 CMR 40.0006.); |
| | Active Operation and Maintenance | Passive Operation and Maintenance |
| | (Active Operation and Maintenance makes the Site subject to a Post-RAO Class | s C Active Opera. In and Maintenance Annual Compliance Fee.) |
| G. | LSP OPINION: | |
| inclu | attest under the pains and penalties of perjury that I have personally examined and cluding any and all documents accompanying this submittal. In my professional or the in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), towedge, information and belief, | inion and judgment based upon application of (i) the standard of |
| that and prov | if Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V of at is (are) the subject of this submittal (i) has (have) been developed and implement at 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purovisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the ide is submittal; | ted in accordance with the applicable provisions of M.G.L. c. 21E poses of such response action(s) as set forth in the applicable |
| is (a | if Section B Indicates that a Phase II Scope of Work or a Phase IV Remedy Im. (are) the subject of this submittal (i) has (have) been developed in accordance with 0.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provision. | the applicable provisions of M.G.L. c. 21E and 310 CMR response action(s) as set forth in the applicable provisions of |
| action CM of M | if Section B Indicates that an As-Built Construction Report or a Phase V Inspirition(s) that is (are) the subject of this submittal (i) is (are) being implemented in ac MR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified providemittal. | cordance with the applicable provisions of M.G.L. c. 21E and 310 such response action(s) as set forth in the applicable provisions |
| | um aware that significant penalties may result, including, but not limited to, possible false, inaccurate or materially incomplete. | fines and imprisonment, if I submit information which I know to |
| | Check here if the Response Action(s) on which this opinion is based, if any, are issued by DEP or EPA. If the box is checked, you MUST attach a statement in | e (were) subject to any order(s), permit(s) and/or approval(s) entifying the application of the entifying the application of the entifying the |
| LSF | SP Name: Neal M. Drawas LSP#: 9844 Star | TIP: JANUAR DE MASSES |
| Tele | elephone: 508-443-1833 Ext.: | NEAL |
| FAX | AX: (optional) 508-443-1929 | DRAWAS No. 9844 |
| Sigr | gnature: Mullyuna | SUSTERUS STERVES |
| Date | ate: Much 7, 1997 | THE PROPERTY OF |



Massachusetts Department of Environmental Protection Bureau of Wasia Site Cleanup

BWSC-108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

DRM & PHASE I COMPLETION STATEMENT
rsuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

| | Pursuant to 310 CMR 40.0484 (Subpa | art D) and | 40.0800 (Subpart | n) | | |
|---|--|--|--|--|---|-------------------------------|
| H. PERSON UNDER | TAKING RESPONSE ACTION(S): | ū. | w | P | | |
| Name of Organization: _ | Arcade Realty Trust | | | | | · · · · · |
| Name of Con.act: | Leonard Jolles | | Title: Proper | ty Mgr. | | |
| Street: | 1 Main Street | <u> </u> | | , | | |
| City/Town: | Whitinsville (Northbrid | dge) | State: MA | ZIP Code: | 01588 | |
| Telephone: | 508-234-6301 Ext.: | ·.' | FAX: (optional) | | | * |
| Check here if there | has been a change in the person undertaking th | he Respons | Action. | * | | |
| I. RELATIONSHIP T | O SITE OF PERSON UNDERTAKING R | RESPONS | E ACTION(S): | (check one) | | |
| X RP or PRP Spec | ify: Owner Operator Ogenerat | ator O To | ansporter Other RF | or PRP: | | |
| Fiduciary, Secured | Lender or Municipality with Exempt Status (as d | defined by M | .G.L. c. 21E, s. 2) | | b. | |
| Agency or Public U | tility on a Right of Way (as defined by M.G.L. c. | . 21E, s. 5(j) | | 7 | | |
| Any Other Person U | Indertaking Response Action Specify Relation | nship: | | | * | |
| J. CERTIFICATION | OF PERSON UNDERTAKING RESPON | SE ACTIO | N(S): | | | |
| knowledge and belief, truthis submittal. I/the pers | ediately responsible for obtaining the information, ue, accurate and complete, and (iii) that I am fully son or entity on whose behalf this submittal is ma sonment for willfully submitting false, inaccurate, | ly authorized ade am/is av e, or incompl | to make this attestate rare that there are signete information. | on on behalf of the nificant penalties, | e entity legally rea including, but no | ponsible fc. t limited to, |
| | de Realty Trust | | Date: | | | |
| (print name of person | on or entity recorded in Section H) | | <u></u> | | · | |
| Enter address of the per | son providing certification, if different from addre | ess recorde | I in Section H: | | | |
| Street: | same | | | | * | |
| City/Town: | | | State: | ZIP Code: | | |
| Telephone: | Ext.: _ | | FAX: (optional) | | : | |
| YOU MUST C | OMPLETE ALL RELEVANT SECTIONS MPLETE. IF YOU SUBMIT AN INCOMP | S OF THIS | FORM OR DEP | MAY RETURN | THE DOCUM | |
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Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL Release Tracking Number FORM & PHASE I COMPLETION STATEMENT?

0000111

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

| A. SITE LOCATION: Site Name: (optional) ATF Davidson | (N2 C | The second secon |
|--|--|--|
| Street: 355 Main Street | Location Aid: | opposite Arcade Pond |
| City/Town: Northbridge | ZIP Code: | 01588 |
| Related Release Tracking Numbers that this Form Addresses: | | <u> </u> |
| Tier Classification: (check one of the following) | . Tier IB Tie | er IC X Tier II Not Tier Classifie |
| If a Tier I Permit has been issued, state the Permit Number: R | eclassification | of Default Tier IB |
| B. THIS FORM IS BEING USED TO: (check all that apply | 0 | i taka asak sa ya k |
| X Submit a Phase I Completion Statement, pursuant to 310 CM | R 40.0484 (complete Sections) | A, B, C, G, H, I and J). |
| Submit a Phase II Scope of Work, pursuant to 310 CMR 40.08 | 34 (complete Sections A, B, C, | , G, H, I and J). |
| Submit a final Phase II Comprehensive Site Report and Com (complete Sections A, B, C, D, G, H, I and J). | pletion Statement, pursuant t | to 310 CMR 40.0836 |
| Submit a Phase III Remedial Action Plan and Completion Sta | atement, pursuant to 310 CMR | 40.0862 (complete Sections A, B, C, G, H, I and |
| Submit a Phase IV Remedy Implementation Plan, pursuant to | 310 CMR 40.0874 (complete : | Sections A, B, C, G, H, I and J). |
| Submit an As-Built Construction Report, pursuant to 310 CM | R 40.0875 (complete Sections | A, B, C, G, H, I and J). |
| Submit a Phase IV Final Inspection Report and Completion S (complete Sections A, B, C, E, G, H, I and J). | Statement, pursuant to 310 CM | MR 40.0878 and 40.0879 |
| Submit a periodic Phase V Inspection & Monitoring Report, p | oursuant to 310 CMR 40.0892 (| (complete Sections A, B, C, G, H, I and J). |
| Submit a final Phase V Inspection & Monitoring Report and C (complete Sections A, B, C, F, G, H, I and J). | Completion Statement, pursu | uant to 310 CMR 40.0893 |
| You must attach all supporting documentation any Legal Notices and Notices to | | |
| C. RESPONSE ACTIONS: | | |
| Check here if any response action(s) that serves as the basis for interested in using this information to create an innovative Techn | | es the use of Innovative Technologies. (DEP is |
| Describe Technologies: | | |
| D. PHASE II COMPLETION STATEMENT: | | |
| Specify the outcome of the Phase II Comprehensive Site Assessmen | t | . , |
| Additional Comprehensive Response Actions are necessary at the | nis Site, based on the results of | f the Phase II Comprehensive Site Assessment. |
| The requirements of a Class A Response Action Outcome have will be submitted to DEP. | been met and a completed Re | esponse Action Outcome Statement (BWSC-104) |
| The requirements of a Class B Response Action Outcome have will be submitted to DEP. | been met and a completed Res | sponse Action Outcome Statement (BWSC-104) |
| Rescoring of this Site using the Numerical Ranking System is ne | cessary, based on the results | of the final Phase II Report. |
| E. PHASE IV COMPLETION STATEMENT: | 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 30 III |
| Specify the outcome of Phase IV activities: | | |
| Phase V operation, maintenance or monitoring of the Compreher (This site will be subject to a Phase V Operation, Maintenance as | | |
| The requirements of a Class A Response Action Outcome have ensure the integrity of the Response Action Outcome. A comple DEP. | | |
| The requirements of a Class C Response Action Outcome have ensure the integrity of the Response Action Outcome. A comple DEP. | been met. No additional opera sted Response Action Outcome INTINUED ON THE NEXT PA | Statement (BWSC-104) will be submitted to |



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup This in the second sec

BWSC-108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL Release Tracking Number FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

0000111

| E. PHASE IV COMPLETION STATEMENT: (continued) | |
|--|--|
| The requirements of a Class C Response Action Outcome have been me is necessary to ensure that conditions are maintained and that further pro-Action Outcome Statement (BWSC-104) will be submitted to DEP. | et. Further operation, maintenance or monitoring of the remedial action ogress is made toward a Permanent Solution. A completed Response |
| Indicate whether the operation and maintenance will be Active or Passive | . (Active Operation and Maintenance is defined at 310 CMR 40.0006.): |
| Active Operation and Maintenance | Passive Operation and Maintenance |
| (Active Operation and Maintenance makes the Site subject to a Post-RAG | O Class C Active Operation and Maintenance Annual Compliance Fee.) |
| F. PHASE V COMPLETION STATEMENT: | and the second of the second o |
| Specify the outcome of Phase V activities: | |
| The requirements of a Class A Response Action Outcome have been me will be submitted to DEP. | et and a completed Response Action Outcome Statement (BWSC-104) |
| The requirements of a Class C Response Action Outcome have been me ensure the integrity of the Response Action Outcome. A completed Response Action Outcome. | et. No additional operation, maintenance or monitoring is necessary to ponse Action Outcome Statement (BWSC-104) will be submitted to DEP. |
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| Active Operation and Maintenance | Passive Operation and Maintenance |
| (Active Operation and Maintenance makes the Site subject to a Post-RA | O Class C Active Opera on and Maintenance Annual Compliance Fee.) |
| G. LSP OPINION: | |
| I attest under the pains and penalties of perjury that I have personally examine including any and all documents accompanying this submittal. In my professionare in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) an knowledge, information and belief, | onal opinion and judgment based upon application of (i) the standard of |
| if Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phat that is (are) the subject of this submittal (i) has (have) been developed and impand 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish provisions of M.G.L. c. 21 E and 310 CMR 40.0000, and (iii) complies(y) with this submittal; | plemented in accordance with the applicable provisions of M.G.L. c. 21E the purposes of such response action(s) as set forth in the applicable |
| if Section B indicates that a Phase II Scope of Work or a Phase IV Reme is (are) the subject of this submittal (i) has (have) been developed in accordan 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes o M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified p | ce with the applicable provisions of M.G.L. c. 21E and 310 CMR f such response action(s) as set forth in the applicable provisions of |
| > if Section B Indicates that an As-Built Construction Report or a Phase Vaction(s) that is (are) the subject of this submittal (i) is (are) being implemente CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purpoof M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified submittal. | d in accordance with the applicable provisions of M.G.L. c. 21E and 310 ases of such response action(s) as set forth in the applicable provisions |
| I am aware that significant penalties may result, including, but not limited to, po be false, inaccurate or materially incomplete. | ossible fines and imprisonment, if I submit information which I know to |
| Check here if the Response Action(s) on which this opinion is based, if a issued by DEP or EPA. If the box is checked, you MUST attach a staten | nny, are (were) subject to any order(s), permit(s) and/or approval(s) ment identifying the application as in the provided the spot of the second seco |
| LSP Name: Neal M. Drawas LSP#: 9844 | Stamp: Stamp: |
| Telephone: 508-443-1833 Ext.: | NEAL NEAL |
| FAX: (optional) 508-443-1929 | DRAWAS No. 9844 |
| Signature: MulMous | SITE DON'TE |
| Date: Much 7, 1997 | DEPTHANG OF THE PARTY OF THE PA |



Massachusetts Department of Environmental Protection Bureau of Wasie Site Cleanup

BWSC-108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

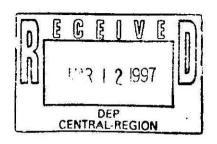
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| Pursuant to 310 CMR 40.0484 (S | ubpart D) and | 40.0800 | (Subpart | H) | ر کے ا | 000 | OIII. |
|--|---|--|---|--|---|---|--|
| H. PERSON UNDERTAKING RESPONSE ACTION(S): | | Q. | • | | | | 157 |
| Name of Organization: <u>Arcade Realty Trust</u> | | | * | a | | | - |
| Name of Con.act: Leonard Jolles | | Title: _ | Proper | ty Mgr. | | | ÷ |
| Street: 1 Main Street | | | | | | | |
| City/Town: Whitinsville (Northb | oridge) | State: _ | MA | ZIP Code: _ | 01588 | - | |
| Telephone: 508-234-6301 Ext.: | . <u> </u> | FAX: (or | tional) | | | | |
| Check here if there has been a change in the person undertak | ing the Response | Action. | ٠, | | | | • |
| I. RELATIONSHIP TO SITE OF PERSON UNDERTAKIN | NG RESPONS | E ACTIO | DN(S): | (check one) | 5 | | |
| X RP or PRP Specify: (x) Owner O Operator O Ge | enerator (| ransporte | Other RP | or PRP: | * | | |
| Fiduciary, Secured Lender or Municipality with Exempt Status | (as defined by M | .G.L. c. 2 | 1E, s. 2) | | • | | |
| Agency or Public Utility on a Right of Way (as defined by M.G. | .L. c. 21E, s. 5(j) |) | | | | | - 4 |
| Any Other Person Undertaking Response Action Specify Re | elationship: | | | | | | |
| J. CERTIFICATION OF PERSON UNDERTAKING RESI | PONSE ACTIO | N(S): | | | | | |
| I, Leonard Jolles , attest u familiar with the information contained in this submittal, including an of those individuals immediately responsible for obtaining the inform knowledge and Lelief, true, accurate and complete, and (iii) that I and this submittal. If the person or entity on whose behalf this submittal possible fines and imprisonment, for willfully submitting false, inaccurate and complete and c | ny and all documen nation, the materion of fully authorized is made am/is av curate, or incompl | ents accor al informa to make t vare that t ete inform | npanying thi tion contains his attestation here are signation. | s transmittal for ed in this submit on on behalf of nificant penaltie | rm, (ii) that, ba ttal is, to the b the entity lega is, including, b | ased on mest of my lly respon out not lim | ny inquiry / nsible fc. nited to, |
| By: (signature) | | Title: _ | Prope | erty Mgr | • | | |
| For: Arcade Realty Trust | | | | | 8 | | |
| (print name of person or entity recorded in Section H) | | - ASS 255 MAR. 3 | | | | | |
| Enter address of the person providing certification, if different from | address recorded | in Section | n H: | | | | ** |
| Street: same | | | | | | ** | |
| City/Town: | | State: _ | | _ ZIP Code: | | 8.2 | |
| Telephone:E | xt.: | FAX: (or | tional) | | | | |
| YOU MUST COMPLETE ALL RELEVANT SECTI INCOMPLETE. IF YOU SUBMIT AN INCO A RE | | RM, YO | U MAY BE | | | | T AS |
| | 4 | | * | B | | | - |

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ATF DAVIDSON 1 MAIN STREET WHITINSVILLE, MA

RTN 2-0111



- I. INTRODUCTION AND PURPOSE
- II. SITE DESCRIPTION
- III. SITE HISTORY
- IV. SITE HYDROGEOLOGY CHARACTERISTICS
- V. NATURE AND EXTENT OF CONTAMINATION
- VI. MIGRATION PATHWAYS AND EXPOSURE POTENTIAL
- VII. SUMMARY AND CONCLUSIONS

FIGURES

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Figure 2- Monitoring Well Location Plan

Figure 3- MADEP GIS Priority Resource Map

Figure 4- Whitinsville Water Company- Zone II Delineation Maps

TABLES

Table 5.1- Analytical Results (October 1996/January 1997)

APPENDICES

- Appendix 1 Caswell, Eichler & Hill, Inc., October 1985, "Monitoring Well Installation and Ground Water and River Bottom Sediment".
- Appendix 2 Caswell, Eichler & Hill, Inc., January 1986, "Additional Investigations- ATF/Davidson Arcade Facility, Covitch Properties, Mumford River".
- Appendix 3 Caswell, Eichler & Hill, Inc., October 1986, "ATF/Davidson Arcade Facility Sampling Report".
- Appendix 4 Caswell, Eichler & Hill, Inc., March 1987, "Additional M-8 Investigations ATF/Davidson Arcade Facility, Whitinsville, Massachusetts".
- Appendix 5 Kroll Associates, Inc., October 1996 and January 1997, "Groundwater Monitoring Data".

I. INTRODUCTION AND PURPOSE

This Phase I Initial Site Investigation Report has been prepared by Kroll Associates, Inc. (Kroll) on behalf of Arcade Realty Trust, the Owner and Potentially Responsible Party (PRP) of the Site identified as ATF Davidson, 1 Main Street, Northbridge, MA (the "Site"), also known as the "Arcade". The Site has been further identified by the Release Tracking Number (RTN) 3-1431 which was assigned by the Massachusetts Department of Environmental Protection, Central Regional Office (MA DEP CERO).

The Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 has established various action levels, time sensitive reporting formats and an attendant fee structure to ensure adequate compliance with the intent of the regulation. Specific to this site is the requirement that it be Tier Classified [310 CMR 40.0501] if additional remedial measures are required at the site. Additionally, the MCP mandates that a Phase I Initial Site Investigation Report accompany any Tier Submittal [310 CMR 40.0481(2)] and that the report follow a prescribed format [310 CMR 40.0483].

This Phase I Report is based on information collected from the following sources:

- Facility inspections and assessment activities in order to categorize present day conditions at the site;
- MA DEP GIS Priority Resources Map, with databases listed at Figure 3:
- Review of available historical information regarding site use and progressive development, including available historical site plans and environmental reports.
- Review of federal, state and local regulatory information regarding the subject property and adjacent sites.
- Review of Whitinsville Water Company files:
- Interviews of knowledgeable individuals regarding site and facility history, and facility work practices.
- An on-site environmental inspection of the subject property conducted on February 10, 1997, including building interiors and a visual survey of the adjacent and surrounding properties.
- Caswell, Eichler & Hill, Inc., October 1985, "Monitoring Well Installation and Ground Water and River Bottom Sediment".
- Caswell, Eichler & Hill, Inc., January 1986, "Additional Investigations-ATF/Davidson Arcade Facility, Covitch Properties, Mumford River".
- Caswell, Eichler & Hill, Inc., October 1986, "ATF/Davidson Arcade Facility Sampling Report".

- Caswell, Eichler & Hill, Inc., March 1987, "Additional M-8 Investigations ATF/Davidson Arcade Facility, Whitinsville, Massachusetts".
- Kroll Associates, Inc., October 1996 and January 1997, "Groundwater Monitoring Data".

The earlier site assessments conducted by Caswell, Eichler & Hill, on behalf of the previous Owners, are included in the Appendices and are incorporated by reference in this Phase I Report.

2. SITE DESCRIPTION

The legal description of the subject property and street address is as follows:

Address: 355 Main Street

Northbridge (Whitinsville), Massachusetts

U.S. Geological Survey: Uxbridge Quadrangle

42⁰06'41" North latitude 71⁰40'46" West longitude

Universal Transverse

Mercator (UTM) Coordinates: 4,665,418mN; 278,463mE

MADEP Site Reference: 2-0111

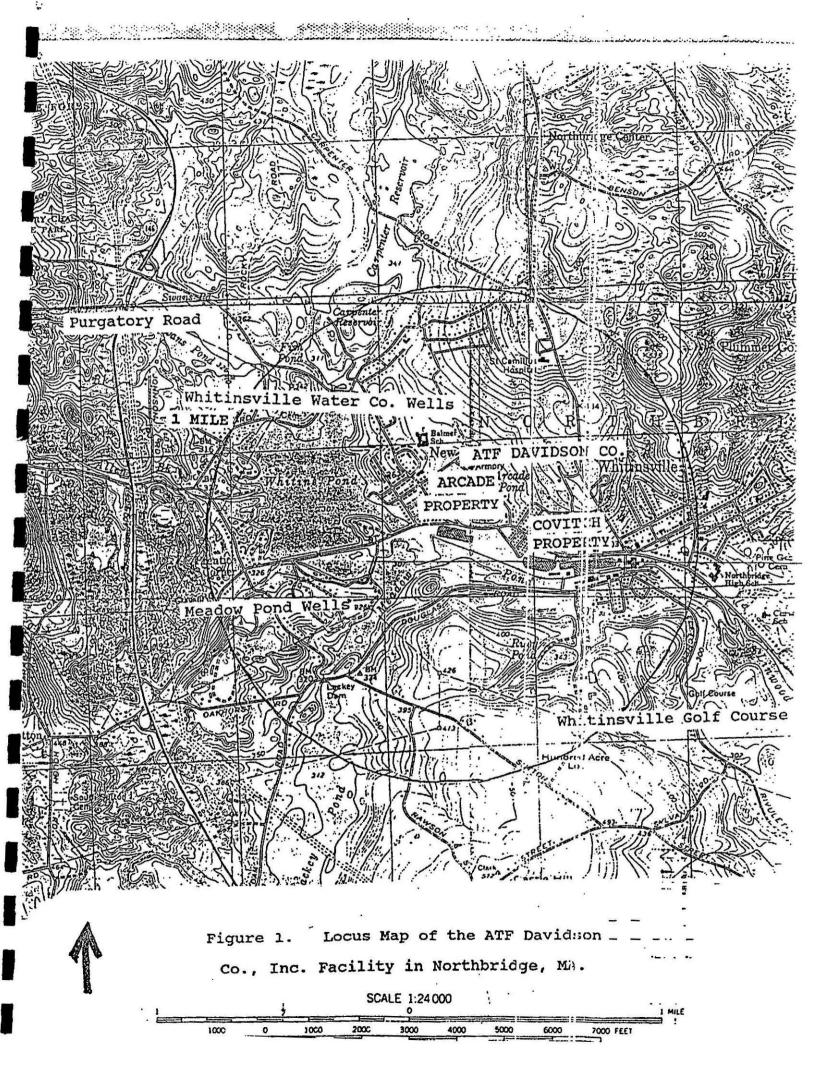
The subject property is in a commercial/industrial zone and is currently used as warehouse, distribution and light manufacturing facility with two (2) tenants. The area around the subject property is a mixture of commercial and residential properties along Main Street, and is primarily residential properties west and north of the site. The Site is bounded on the south by the Mumford River.

Approximately 97,000 square feet are leased to Auburn Merchandise Distributors, Inc. (AMD) who employs approximately 150 employees. AMD operates a warehousing/distribution center for cigarettes and food supplies. The second tenant is MHPG, Inc. (MHPG) who performs silk screening of clothing and operates a warehouse and distribution center. MHPG currently employs approximately 135 employees.

The building is concrete, brick and partial steel siding, and occupies approximately 194,000 square feet of the 27 acre parcel, paved parking areas occupy the northern and western sides of the building. The building is primarily a single story structure, with a partial second story which contains a small locker room and an electric utility room. A boiler room with two (2) gas fired boilers provides steam heat throughout the entire building.

Two (2) separate metal utility type buildings are located southeast of the main building. One structure (approximately 15' by 25') is used by AMD for the storage of warehouse conveyance machinery. The second building (approximately 10' by 10' feet) houses an external electric transformer within a concrete containment basin.

SUBJECT PROPERTY LOCATION PLAN



3. SITE HISTORY

The ATF-Davidson property was a 73 acre facility directly west of the downtown portion of Whitinsville, a village within the Town of Northbridge (see Figure 1). The site is located in the 50-100 year flood plain. The Site was later sub-divided into the Covich property (46 acres) and the ATF-Davidson "Arcade" (27 acres) by ATF-Davidson and sold the east portion to Covich.

The entire property was originally owned by the Whitin Machine Works which produced textile machines at the Covich location from approximately 1837 to 1979. From 1941-1945, 85% of the facility was converted to war production. After the war, production of textile machines resumed. In 1966, the company converted to the production of graphic arts equipment. Whitin Machine, then part of ATF-Davidson, ceased operations in 1982.

Subsequent to the Whitin Machine Works, ATF-Davidson utilized the Arcade property to produce printing machines. Historic processes included turning, milling, grinding, metal treatment, assembly, painting and testing.

Foundry wastes from the foundry at Whitin Machine Works were mixed with spent foundry sand and were deposited, from roughly 1930 to 1979, adjacent to the present day Covich property in an unlined landfill called the "Arcade". The landfill area initially consisted of overburden of river sediments over bedrock extending approximately 3200 feet along the northern bank of the Mumford River. The Arcade facility was built upon a portion of the filled area. Total volume of the landfill was estimated at 40,000 cubic yard; total surface area is estimated at 730,000 square feet. Foundry sands range in size from fine to coarse with some pumice like material, foundry glass and ash.

Monitoring wells which were initially installed in 1985 detected groundwater within the "Arcade" site was found to be contaminated with volatile organic constituents (VOCs) and heavy metals. This resulted in the Arcade site being listed as a "Confirmed Non-Priority Site" by the MA DEP on October 15, 1987. Volatile organic constituents appear to be concentrated within one general area on the Arcade property suggesting that limited and random spillage may have occurred. Heavy metal constituents appeared to be located in two (2) discrete locations along the Site's southern boundary. Monitoring wells on the Covich Property have never indicated the presence of contaminants in groundwater at or near action levels.

The parcels which make up the subject site are currently owned by Arcade Realty Trust.

THIS PHASE I REPORT SPECIFICALLY ADDRESSES ONLY THE ATF-DAVIDSON "ARCADE" PROPERTY.

4. SITE HYDROGEOLOGICAL CHARACTERISTICS

Based on the surface topography of the area and the proximity of the Mumford River south of the subject property, it appears that both surface and groundwater regional flow is to the south/southeast.

Surface water runoff is discharged to storm drains located on the property which discharge directly into the Mumford River. A survey of monitoring well elevations and gauging of monitoring wells on the subject property confirm local groundwater conditions. Environmental reports by Caswell, Eichler & Hill, Inc. (1985, 1986 and 1987) and Kroll (1996 and 1997) indicate the presence of fill to a depth of 7.0 to 14.5 feet below grade (fbg) and river bottom sediments extending an additional three feet to refusal. Groundwater fluctuates at depths between approximately 3 to 5.5 feet and generally flows south beneath the site and discharges into the Mumford River.

5. NATURE AND EXTENT OF CONTAMINATION

There have been a number of environmental studies and groundwater monitoring events of the subject site which are listed below.

| Caswell, | Eichler | & Hill, Inc. | October 1985 |
|-----------|-----------|--------------|--------------|
| Caswell, | Eichler | & Hill, Inc. | January 1986 |
| Caswell, | Eichler | & Hill, Inc. | October 1986 |
| Caswell, | Eichler | & Hill, Inc. | March 1987 |
| Caswell, | Eichler | & Hill, Inc. | July 1987 |
| Kroll As: | sociates, | Inc. | October 1996 |
| Kroll Ass | sociates, | Inc. | January 1997 |

In 1985, eight shallow monitoring wells (M-1 through M-8) were installed by ATF-Davidson (see Figure 2). Groundwater samples were collected and analyzed for VOCs, metals and inorganics and cyanide. Groundwater samples from monitoring well M-3 (west of the building) were also analyzed for oil and grease, Soil samples were collected from each monitoring well from the surface and every 5 feet in depth.

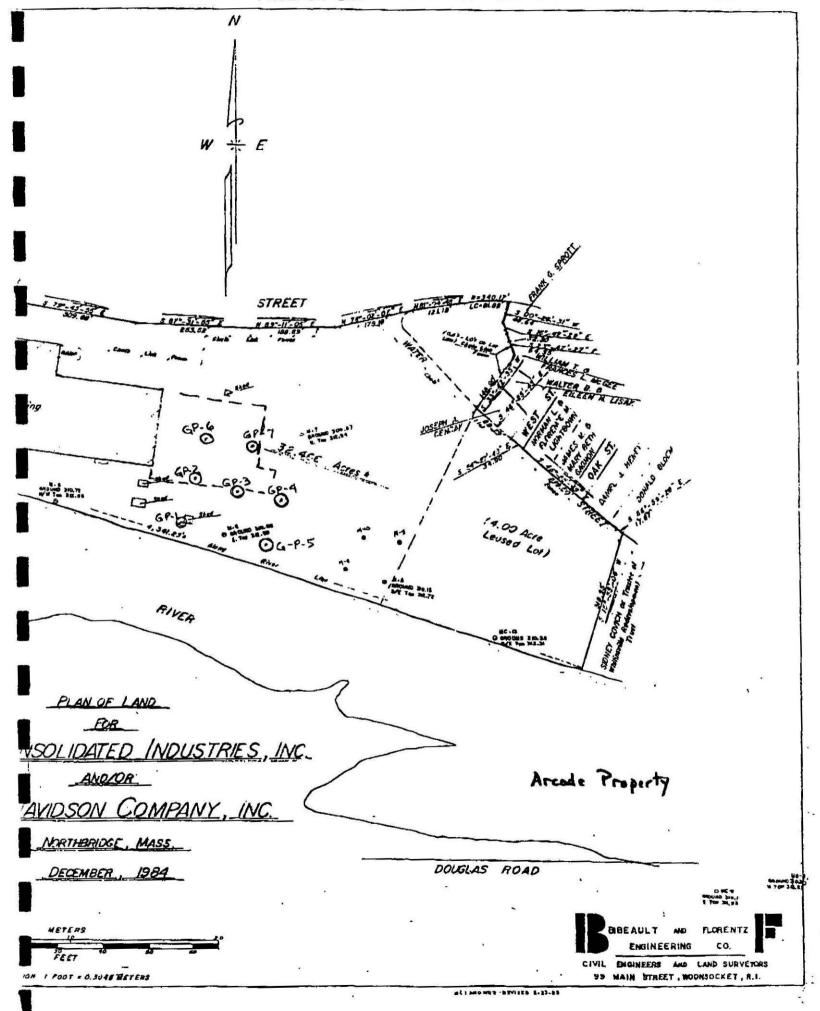
Analysis of groundwater samples indicated that VOC contamination was present only in monitoring wells M-3, M-6 and M-8. Analysis of samples from the other wells did not reveal VOC constituents. Analysis of groundwater samples for priority pollutant metals, barium and cyanide revealed levels well below the Massachusetts Drinking Water Standards for all metals except barium. Barium was identified at concentrations near or slightly above that standard in monitoring wells M-4, M-5, M-6 and M-8. Oil and grease in monitoring well M-3 was less than 500 ppb.

Five benthic cores (B-1 through B-5) were taken from the littoral zone of the Mumford River bottom. The five benthic samples taken from the river bottom in 1985 were characterized as dark organic peat and muck. None of the 14 metals analyzed had levels above the maximum allowable concentrations of contaminants per the MCP Method 1 Standards. In addition, Caswell, Eichler and Hill conducted Extraction Toxicity testing on the sediments. Only chromium appeared to of significant concentration warranting further discussion by Caswell, Eichler and Hill. In this case, chromium was found up to 410 ug/g in the benthic samples and the level at which chromium is potentially EP Toxic in sediment samples is 100 ug/l. The upgradient to downgradient (in terms of river flow) concentrations of chromium in the benthic samples were as follows:

| B-5 | 64 ug/g |
|-----|----------|
| B-1 | 410 ug/g |
| B-2 | 250 ug/g |
| B-3 | 400 ug/g |
| B-4 | 100 ug/g |

As reported, the upgradient concentration is itself moderately high, although not potentially EP Toxic. Caswell, Eichler and Hill reported that the remaining four downgradient samples all, exceeded their criteria for delineating potential EP Toxicity but are less than the 1,000 ug/g Method

MONITORING WELL LOCATION PLAN



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1 Standard. These elevated chromium concentrations nay have come from two potential sources, the ATF-Davidson site or some upgradient facility. ATF-Davidson and White Consolidated Inc. officials have stated that they have never used chromium at the Arcade facility, and chromium is not a constituent of concern based on on-site sampling and analysis. Therefore the reasonable conclusion is that the source of this constituents was an upgradient/upstream source.

Caswell, Eichler and Hill explained that the increase in concentrations between B-5 and the remaining samples pertains to changes in the morphology of the river from the Whitinsville Water Company parcel, past the Arcade facility to the dam on the Covich property. The dam creates a large head pond (Whitin Pond) that extends back up the river past the ATF-Davidson facility. As chromium laden organic material flowed past the channelized portion of the river opposite the Whitinsville Water Company, it remained in suspension due to adequate flow velocity. As this material entered the head pond, decreased flow velocity would tend to facilitate the organic matter degraded, the concentration of settling. incorporated metals such as chromium increased in the sediments. textile and tannery facilities (which normally use chromium in their processes) were in operation further up-river, this settling and accretion theory seems to be the most plausible explanation for the levels of metal constituents noted the benthic samples, as chromium is not a constituent of concern for the Arcade site.

In December 1985, additional groundwater samples were obtained from monitoring wells M-1 through M-8. As with the July 1985 analyses, samples from monitoring wells M-1, 2, 4 and 5 did not reveal detectable levels of VOC constituents. Vinyl chloride and 1,2-dichloroethylene were detected in monitoring wells M-3, 6 and 8. Trichloroethylene and tetrachloroethylene were only detected in monitoring wells M-6; and 1,1-dichloroethylene was detected in monitoring well M-7. Levels of barium were near or above the Massachusetts Drinking Water Standard in monitoring wells M-4, 5, 6, and 8.

From February 1986 through August 1986, three additional rounds of analysis were performed on all wells. Groundwater samples analyzed from monitoring wells M-1, 2 and 5 did not contain VOC constituents. Elevated concentrations of 1,2-dichloroethylene and vinyl chloride were found in monitoring wells M-6 and 8. In January 1987, three additional monitoring wells (M-9, 10 and 11) were installed in a radial fashion in an area hydraulically upgradient from monitoring well M-8. Each well was approximately 100 feet from monitoring well M-8 and its adjacent counterpart. Analysis of samples indicated that the contaminants found in monitoring well M-8 were observed in low or non-detectable levels in monitoring wells M-9, 10 and 11 in groundwater samples, samples were devoid of the same contaminants found in the groundwater samples, which suggests a limited and localized presence from a historical release. Caswell, Eichler and Hill concluded that groundwater and the contaminants were obviously flowing toward and being diluted by the Mumford River, thus no health or environmental hazard existed.

In 1987, Caswell, Eichler and Hill (CEH) prepared a Risk Assessment which focused on the contaminated area surrounding monitoring well M-8 at the subject property. The Risk Assessment was comprised of a Hazard Assessment, Exposure Assessment and a Risk Assessment. Investigation centered about the average levels of three VOCs that had been present in the groundwater samples from monitoring well M-8. CEH investigated possible routes of exposure from air and surface water. receptors included local residents and employees of local businesses. CEH concluded that the concentrations of the contaminants as calculated were very low in both pathways and that the risks associated with exposure MADEP had reviewed the CEH Risk were calculated to be negligible. Assessment and concluded that although CEH used an average level of the three VOCs present in the groundwater instead of the highest levels, according to MADEP engineers they doubted whether using the highest concentrations would significantly change the results.

In October 1996 and January 1997 (see Table 5.1), Kroll Associates performed another sampling round of the Arcade monitoring wells and installed seven Geoprobe borings to collect soil and groundwater samples in the vicinity of new building construction. With exception of vinyl chloride in monitoring wells M-6 and M-8 and boring GP-6, all VOC constituent concentrations had notably reduced concentrations and were less than Massachusetts Contingency Plan action levels. The sole presence of vinyl chloride, the final daughter constituent associated with natural degradation, confirms CEH's Risk Assessment conclusions that historic releases of volatile organic materials were limited in magnitude and should naturally degrade over time without the need for additional treatment. Barium concentrations previously found in monitoring wells above MCP action levels, were now found at levels less than MCP standards.

6. MIGRATION PATHWAYS AND EXPOSURE POTENTIAL

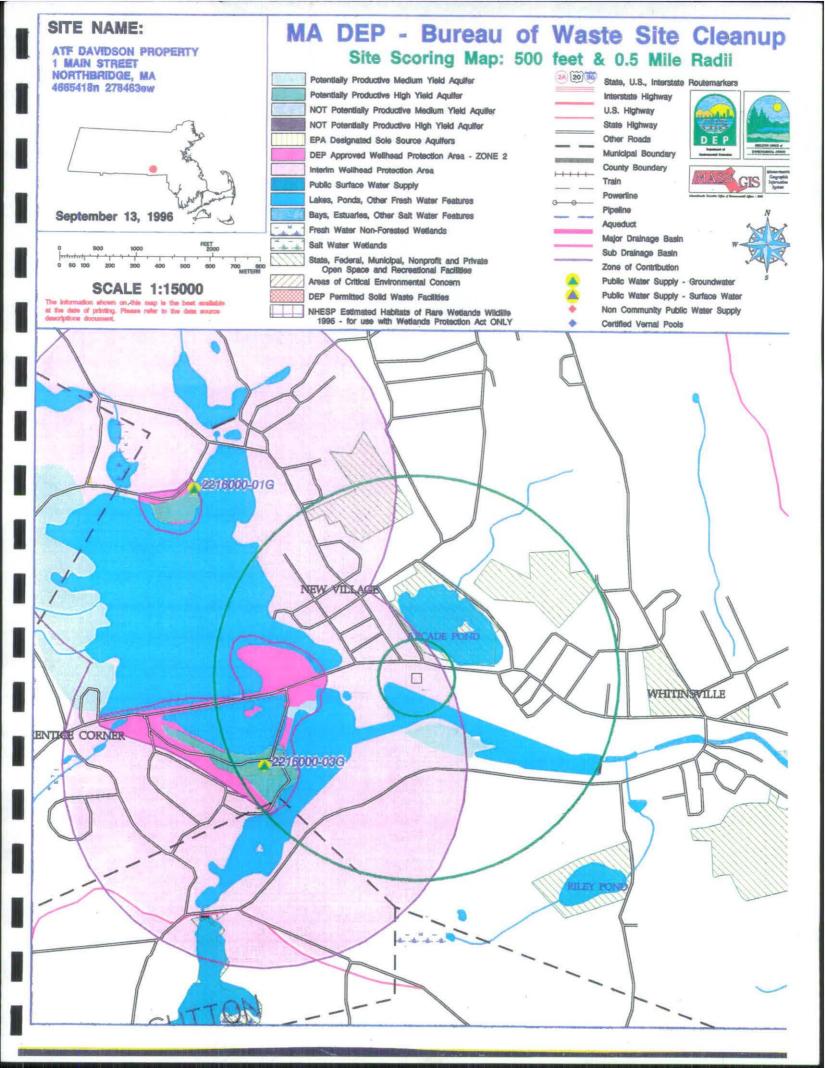
As shown in Figure 3, the only environmentally sensitive receptor within 500 feet is the Mumford River bordering the site along the southern boundary. Within a 1/2 mile radius north and west of the Site is a portion of the Whitinsville Water Company well field and its surrounding productive aquifer. However, the groundwater flows in a south/southeasterly direction into the Mumford River downgradient of the Whitinsville Water Company well field. The MADEP GIS Priority Resource Map (see Figure 3) incorrectly identifies that the subject site lies within the Interim Protection Wellhead Zone of the Whitinsville Water Company Whitin Pond well field. Engineering documentation (see Figure 4) prepared by the water company's consultant (Whitman & Howard) specifies a Defined Zone II Protective area (see Figure 4) which is upgradient and off-site from the subject Site.

The only identified migration pathway for the vinyl chloride release at this Site appears to be through subsurface migration to the river. River sampling conducted by Caswell, Eichler and Hill did not detect vinyl chloride or other volatile organic constituents, indicating that any volatile organics reaching the river are rapidly attenuated through evaporation, dilution and degradation.

Other potential receptors include workers and visitors to the Site. Under current conditions, exposure to vapors or fugitive dust appears minimal due to the depth of the observed contamination (over 3 to 5 feet below grade). However, under future conditions construction or utility worker in excavated trenches within the area of groundwater contamination could be exposed, and proper precautions should be taken. Any future building construction should be designed to incorporate a vapor control barrier with passive subsurface ventilation to prevent vapors rising into the building(s).

A number of other potential contaminants were identified in the earlier studies prepared by Caswell, Eichler and Hill (see Appendices). However, there is no evidence to indicate that there are any other constituents which exceed MCP Method 1 Cleanup Standards other than those previously discussed.

MADEP GIS NATURAL RESOURCE MAP



NRS SCORING MAP DATA SOURCES

AQUIFERS: USGS-WRD/MassGIS, 1:48,000. Automated by MassGIS from the USGS Water Resources Div. Hydrologic Atlas series manuscripts. The definitions of high and medium yield vary among basins. (1977 to 1988.)

SOLE SOURCE AOUIFERS: US EPA/MA DEP/MassGIS, various scales. They are defined by EPA as aquifers that are the 'sole or principal source' of drinking water for a given aquifer service area. Last updated July 1993.

<u>DEP APPROVED ZONE IIS:</u> MA DEP, 1:25,000. As stated in 310 CMR 22.02 'that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated.' Digitized from the DEP Water Supply Protection Atlas by DEP-DWS (Division of Water Supply) staff. (1983 to January 1995.)

POTENTIALLY PRODUCTIVE AOUIFERS: DEP-BWSC (Bureau of Waste Site Cleanup. These aquifers are defined as all medium or high yield aquifers except for that portion of the aquifers surface area that falls within a city or town that has a population density of greater than 4400 people per square mile, based on the most recent US. Census.

INTERIM WELLHEAD PROTECTION AREAS: DEP-DWS (Division of Water Supply), 1:25,000. Half-mile buffers zones were generated using the Community Public Water Supplies point coverage (see below). These polygons represent an interim Zone II for a groundwater source until an actual one is approved by the DEP Division of Water Supply. (January 1995.)

HYDROGRAPHY: USGS/MassGIS. Nearly half of the state is available as 1:24000/1:25000 USGS Digital Line Graph (DLG) data. In addition, for 40% of the state, USGS 1:100000 DLG hydrography has been enhanced with 1:25000 hydrographic features. The remainder were digitized at 1:25000 by MassGIS. Source dates vary for DLG's and USGS quadrangles.

WETLANDS: UMass Amherst RMP/MassGIS, 1:25,000. Includes nonforested wetlands extracted from the 1971-1984 Land Use datalayer which was photointerpreted from Summer CIR photography. Interpretation was not done in stereo. Also includes, in some areas, forested wetlands from USGS Digital Line Graph (DLG) data.

PROTECTED & RECREATIONAL OPEN SPACE: EOEA (Executive Office of Environmental Affairs) MassGIS, 1:25,000. Includes federal, state, county, municipal, non profit, private conservation and recreation lands and facilities. Geographic data sources are predominately town tax assessor maps and existing open space plans. Most of these maps have been recompiled onto a 1:25000 basemap provided by MASSGIS. The data are then digitized from these basemaps, which contain registration points. Ongoing updates.

ACECs: CZM and DEM, 1:25,000. Areas of Critical Environmental Concern are areas designated by the Secretary of EOEA as having a number of valuable environmental features coexisting. Projects in ACECs are subject to the highest standards of review and performance. Last updated October 1992.

ROADS: USGS/MassGIS, 1:100,000. MassGIS extracted roads from the USGS Transportation DLG files. They generalized, modified, and updated this coverage. Major roads are part of the state, US. or interstate highway systems. Circa 1985.

DRAINAGE BASINS: USGS-WRD/MassGIS, 1:24,000. Automated by MassGIS from USGS Water Resources Division manuscripts with approximately 2400 sub-basins as interpreted from 1:24,000 USGS quadrangle contour lines. Individual basins for surface Community Public Water Supplies were added by DEP in April 1993. 1987 - 1993.

POLITICAL BOUNDARIES: MassGIS/USGS, 1:25,000. This datalayer was digitized by MassGIS from mylar USGS quads. Source date is approximately 1985.

<u>OUADRANGLE INDEX:</u> MassGIS. Generated from USGS 7.5 minute quadrangle corner coordinates converted from lat/long to Mass. State Plane coordinates. 1985.

DEP PERMITTED SOLID WASTE FACILITIES: DEP-DSW (Division of Solid Waste), 1:25,000. Includes only facilities regulated since 1971. Most are sanitary landfills, though transfer stations and recycling or composting facilities are included. Either facility boundaries were compiled or approximate facility point locations drafted onto USGS quadrangles and automated by the DEF Division of Solid Waste. Last updated 1994.

PUBLIC WATER SUPPLIES: DEP-DWS, 1:25,000. Community and non-community surface and groundwater withdrawal points were field collected using Global Positioning System receivers. The attributes were added from the DEP Division of Water Supply database. Last updated January 1995.

SITE LOCATION: Location coordinates were converted to state plane coordinates from user supplied longitude and latitude or UTM. Coordinates are site specific and source dates vary.

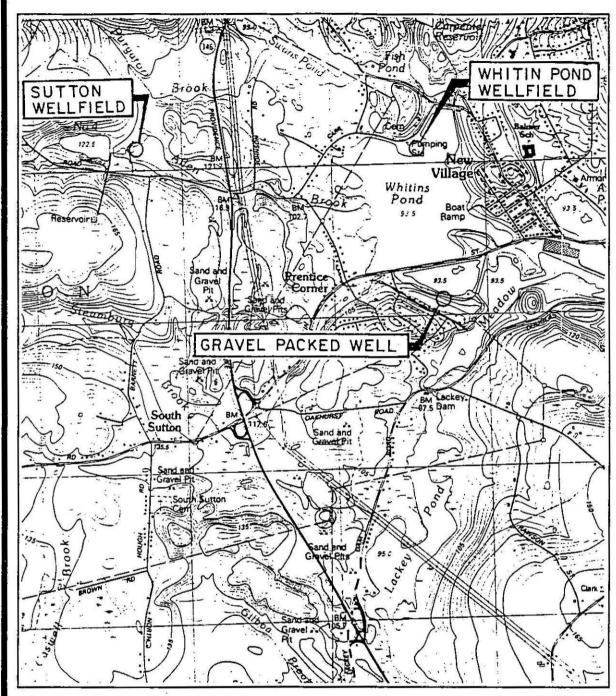
NHESP Estimated Habitats of Rare Wetlands Wildlife: Polygons show estimated habitats for all processed occurrences of rare wetlands wildlife. Data collected by Natural Heritage & Endangered Species Program and compiled at 1:24000 or 1:25000 scale. For use with Wetlands Protection Act Only. Effective Jan. 1, 1995 through Dec. 31 1995.

NHESP Certified Vernal Pools: Points show all vernal pools certified by NHESP/MADFW (Fisheries and Wildlife) as of January 1, 1993. Data compiled at 1:24000 or 1:25000 scale. Effective January 1, 1995 through December 31, 1995



Last Revised FEBRUARY 6, 1995

WHITINSVILLE WATER COMPANY ZONE II DELINEATION MAPS



1 North

Scale 1:25 000

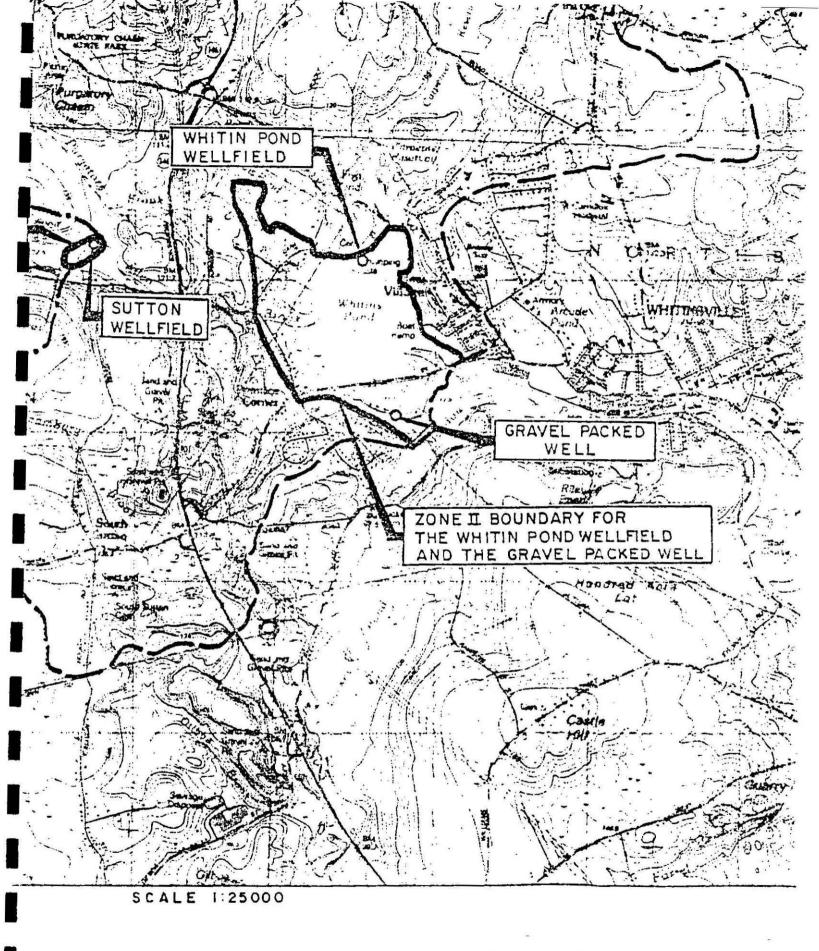
LOCUS MAP

ZONE II DELINEATIONS
WHITINSVILLE WATER COMPANY
WHITINSVILLE, MASSACHUSETTS

FIGURE 1-1

SOURCE: USGS UXBRIDGE QUADRANGLE





ZONE I DELINEATION

WHITINSVILLE WATER COMPANY WHITINSVILLE, MASSACHUSETTE

) AND

7. SUMMARY AND CONCLUSIONS

Historic site assessment studies suggest that limited and random disposal of hazardous constituents occurred on the property during prior ownership. As previously noted subsurface investigations and on-going groundwater monitoring have identified the presence of heavy metal and volatile organic constituents. assessments (1985-1987)reported that groundwater Concentrations were exceeded for barium, vinyl chloride, 1,1,1 trichloroethylene, 1.2 dichloroethylene and tetrachloroethylene. Recent groundwater sampling and analyses have demonstrated a notable reduction of barium and all volatile organic constituents with the exception of vinyl chloride. These results support the opinion that the historic releases were limited in volume and distribution, and that natural attenuation and degradation have reduced the VOC and toxic metal constituents to levels below MCP action levels, with exception of vinyl chloride.

In response to MADEP's January 8, 1997 request, this Phase I Initial Site Investigation Report must be completed and filed with the MADEP along with a Tier Classification Submittal prepared by an Licensed Site Professional in accordance with the MCP. Based on historical and recent groundwater data, the recommended course of action is to conduct annual monitoring of the groundwater condition for the next two to three years. It is anticipated that through natural degradation and attenuation groundwater will attain MCP standards.

Within three years the groundwater condition should be re-evaluated, and either a Remediation Action Outcome (RAO) Statement filed or, if residual constituents remain consistent, a Phase II Assessment and Phase III Remediation Plan will have to be prepared and submitted to the MA DEP to ensure a level of No Significant Risk to health, safety, public welfare and the environment.

MONITORING WELL INSTALLATION

AND

GROUND WATER AND RIVER BOTTOM SEDIMENT

QUALITY ANALYSES

AFT/DAVIDSON COMPANY

ARCADE FACILITY

WHITTINSVILLE, MASSACHUSETTS

CASWELL, EICHLER & HILL, INC.
PORTSMOUTH, NEW HAMPSHIRE

OCTOBER 1985

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INTRODUCTION

The Massachusetts Department of Environmental Quality Engineering (DEQE) requested that a hydrogeologic site assessment be conducted at the ATF/Davidson Company (ATF/D) Arcade facility in Whitinsville, Massachusetts. In that ATF/D is a subsidiary of White Consolidated Industries (WCI) of Cleveland, Ohio, WCI and ATF/D retained Caswell, Eichler and Hill, Inc. (CEH) to develop and implement a plan that would satisfy DEQE requirements concerning the general hydrogeologic site assessment. This assessment would include the installation of monitoring wells, the collection of soil, river bottom and grounwater samples, the measurement of groundwater elevations, the completion of a vertical and horizontal survey of the monitoring well locations, and completion of selected laboratory analyses for volatile organics (EPA 624), oil and grease, barium, total cyanide and priority pollutant metals.

CEH, a professional firm of geologists, hydrologists and geophysicists, assumed the project's lead role. Environmental Field Services (EFS) and Resource Analysts, Inc. (RAI) of Hampton, New Hampshire performed the ground water sampling and laboratory analyses. New England Boring Contractors, Inc. of Glastonbury, Connecticut performed the drilling, soil sampling and monitoring well construction. Bibeault and Florentz, Inc. of Woonsocket, Rhode Island performed the elevational and location survey to establish horizontal and vertical control on the monitoring wells.

WORK PERFORMED

- A. DRILLING AND MONITORING WELL CONSTRUCTION. As whown on the FACILITY MAP AND SHALLOW HORIZONTAL FLOWNET (Figure 1), eight locations (M-1 through M-8) were chosen for the installation of shallow monitoring wells. Where possible, hollow stem augers (3 inch I.D.) were advanced to below the water table, and standard split-spoon sampling was completed to note stratigraphy. Threaded, flush joint, ten-slot PVC screen (1.5 inch I.D.) was set at and below the water table, and solid PVC riser of the same design and dimension was installed to roughly two feet above land surface. Ottawa sand was packed around the screen, and a two foot thick bentonite seal was installed approximately one foot above the top of the screen. Additional sand was added to within two feet of land surface in each boring, and a locking steel protective pipe was cemented in place. All wells were fully developed upon completion, and all augers were thoroughly washed between borings.
- B. GROUND WATER, SOIL AND RIVER BOTTOM SAMPLING AND LABORATORY ANALYSES. Each completed monitoring well was either pumped dry six times, or six times its volume was extracted prior to sampling. Standard EPA sampling and sample preservation and analysis techniques were employed by EFS and RAI. Ground water samples that were to be tested for volatile organic compounds were taken with a stainless steel bailer. Samples that were to be tested for metals and inorganics were taken with a peristaltic pump. Dedicated tubing was used in each well, and all samples for metals and inorganics were field filtered. Chain of Custody and Field Data forms were completed for each well and set of samples. Please note that the Temperature (°C) Readings reported on the field data forms correspond to the Conductivity (umhos) when it was read, not when the sample was first extracted from the well.

Each ground water sample was analysed for volatile organic compounds (EPA 624), barium, priority pollutant metals, and total cyanide. Samples from M-3 were also analysed for oil and grease.

During construction of the monitoring wells, standard soil sampling was conducted in each boring. An eighteen inch split-spoon sample was taken at the surface and every five feet thereafter. A final sample was taken, or attempted in the case of hollow stem auger refusal, at the bottom of each boring. The samples were placed in standard soil sample jars and kept for future inspeciton and possible laboratory analysis.

Five benthic cores (B-1 through B-5) were taken from the littoral (near-shore) zone of the Mumford River bottom using a canoe and hand corer. The cores were placed in a standard | liter glass sample jar and kept cool prior to delivery to the laboratory. Each sample was analysed for priority pollutant metals and barium.

C. SURVEY FOR HORIZONTAL AND VERTICAL CONTROL. Upon completion of the drilling and monitoring well construction, the locations of the borings and wells were surveyed for horizontal and vertical control. Vertical control was established using a U.S.G.S. benchmark in feet above mean sea level (FT-MSL). Each well top and the immediately adjacent ground surface were surveyed to the nearest hundreth of a foot. Where a well could not be installed, the ground surface at the location of the boring was surveyed. These data, coupled with the subsurface data gathered during the drilling and water level measurement tasks, allowed for the construction of all figures and tables presented herein.

HYDROGEOLOGIC SETTING

The AFT/D Arcade site lies along 3200 feet of the north bank of the Mumford River in Whitinsville, Massachusetts. It is bounded on the east by Sidney Covitch properties, north by Main Street, and west by the Whittinsville Water Company. The Mumford River, which forms the site's southern bondary, flows from west to east.

Nearly the entire site is comprised of foundry fill which is a fine to coarse sand and gravel with some pumice like material, foundry bed glass and ash. This foundry material was continually removed for years from the large foundry at the western end of the Covitch property, and graded out into the river. The resulting land mass presently supports a demolitions debris storage area which abuts the Covitch property, and the ATF/D Arcade facility. The western terminus of the fill consists of an island in the Mumford River, and the aforementioned Whitinsville Water Company parcel.

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RESULTS AND CONCLUSIONS

A. SITE HYDROGEOLOGY. All of the monitoring wells encountered foundry fill throughout their entire depth except M-1. Because one boring was required to be drilled to refusal, M-1 encountered river bottom sediments (brown washed fine to coarse sand and gravel with occasional cobbles and small boulders) at approximately elevation 297. Hollow-stem auger and split-spoon refusal was encountered at elevation 294. This refusal elevation probably corresponds to the bedrock surface elevation as an outcrop is clearly visible about 200 feet to the southeast. This outcrop is at the shoreline of a naturally occuring (bedrock supported) island in the Mumford River comprising the study area's southwestern boundary. Foundry fill was advanced out into the river to the island, effectively incorporating it into the new land mass formed by the fill.

The locations where monitoring wells were completed are shown on Figure 1. Further, data from the drilling and water level measurement tasks were used to construct Monitoring Well and Subsurface Data (Table 1), and Cross Sections A-A', B-B' and C-C' (Figures 2, 3 and 4). Examination of these constructs can educate the reader as to the hydrogeologic nature of the site far better than reading numerous descriptive paragraphs. Some time digesting these compilations is, therefore, recommended prior to and while reading the remainder of the report.

Ground water generally flows south beneath the site, discharging to the river. The average velocity of groundwater flow can be computed, for example, by examining Figure 4. A flow line from M-7 to the river is approximately 450 feet in length. Given the grain size characteristics of the fill, we have estimated a hydraulic conductivity (K) of 1×10^{-3} cm/sec (3.28 x 10^{-5} ft/sec), and a corresponding effective porosity ($n_{\rm e}$) of o.20. Using these estimates and a calculated hydraulic gradient (i) of 4.44 x 10^{-3} (where, 10^{-3} of 10^{-3}) it is possible to estimate the seepage velocity (10^{-3}).

$$\overline{v} = \frac{\text{Ki}}{n_e} = \frac{(3.28 \times 10^{-5} \text{ ft/sec})(4.44 \times 16^{-3})}{0.20}$$

$$= 7.28 \times 10^{-7} \text{ ft/sec}$$

$$= 23 \text{ ft/yr}$$

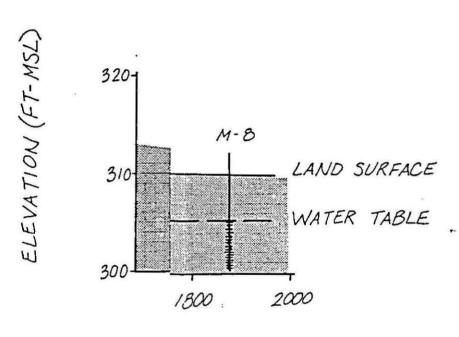
B. GROUND WATER QUALITY. Appendix B contains the groundwater quality data for each well. Additionally, as seen on the field data form, conductivity, temperature (at the time of conductivity reading) and pH were also determined. As the results of the analyses show, no significantly elevated levels of priority pollutant metals were detected. Barium slightly exceeded the Safe Drinking Water Standards in M-5 and M-8. Several of the wells, however, exhibited volatile organic contamination. Samples from M-3 contained 210 ug/l vinyl chloride, 250 ug/l 1,2-trans-dichloroethylene and 10 ug/l trichloroethylene. Samples from M-6 contained 15 mg/l 1,2-trans-dichloroethylene, 30 ug/l trichloroethylene. Samples from M-8 contained 260 ug/l vinyl chloride, a trace of 1,1 dichloroethane, 610 ug/l 1,2-trans-dichloroethylene, 30 ug/l trichloroethylene and a trace of tetrachloroethylene.

TABLE 1

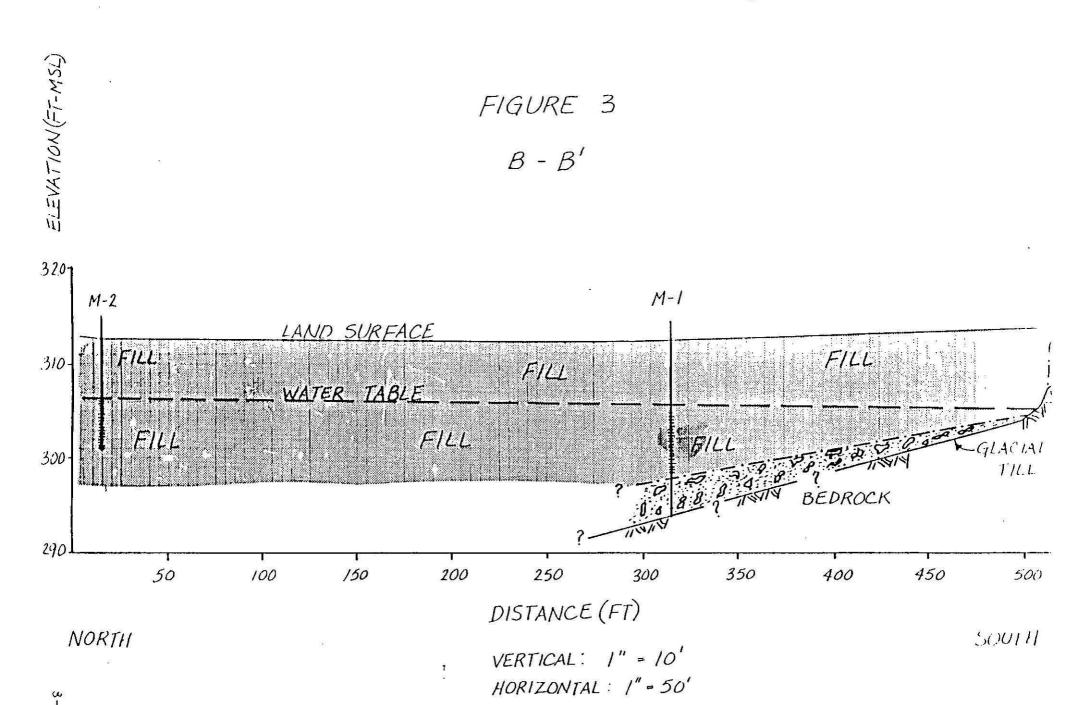
MONITORING WELL AND SUBSURFACE ELEVATIONAL DATA ARCADE SITE

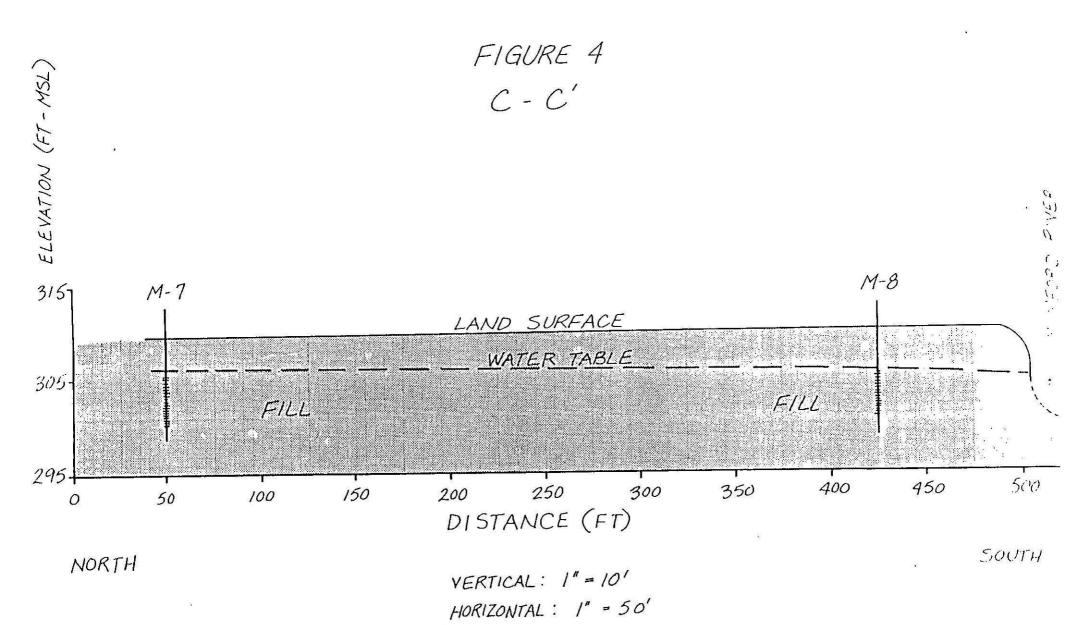
| | WELL# | LAND SURFACE ELEVATION (FT-MSL) | TOP OF PIPE ELEVATION (FT-MSL) | LENGTH OF RISER (FT) | 7-16-85 WATER TABLE ELEVATION (FT-MSL) | 7-18-85 WATER TABLE ELEVATION (FT-MSL) | WATER TABLE ELEVATION NOTED DURING DRILLING (FT-MSL) | BOTTOM OF | TOP OF SCREEN ELEVATION (FT-MSL) | BOTTOM OF SCREEN ELEVATION (FT-MSL) |
|----|-------|--|--------------------------------|----------------------|--|--|--|-----------|---|--|
| | M-1 | 312.12 | 314.04 | 1.92 | 305.73 | 305.73 | 303.32 | 293.82 | 303.12 | 298.12 |
| | M-2 | 312.87 | 314.99 | 2.12 | 306.21 | 306.24 | 305.57 | 300.87 | 305.87 | 300.87 |
| 6- | M-3 | 310.99 | 312.65 | 1.66 | 305.90 | 305.75 | 305.99 | 299.49 | 305.99 | 300.99 |
| | M-4 | 311.19 | 313.24 | 2.05 | 305.60 | 305.56 | 305.69 | 299.69 | 306.19 | 301.19 |
| | M-5 | 310.72 | 312.85 | 2.13 | 305.55 | 305.50 | 305.22 | 299.22 | 305.72 | 300.72 |
| | N-6 | 310.69 | 312.99 | 2.30 | 305.59 | 305.52 | 305.19 | 299.19 | 305.69 | 300.69 |
| | M-7 | 309.87 | 312.94 | 3.07 | 306.23 | 306.13 | 305.07 | 298.87 | 305.37 | 300.37 |
| | M-8 | 310.15 | 312.72 | 2.57 | 305.66 | 305.59 | 305.15 | 298.85 | 305.45 | 300.45 |

ï



WEST EAST





-9-

To place the above concentrations of volatile organic compounds in some form of reference, they should be viewed relative to Suggested No Adverse Reaction Limit (SNARL) standards. These standards were developed by EPA to be used as guidelines. Given the present knowledge of these chemical compounds, a SNARL suggests both concentrations and exposure times that an average person may endure without significant adverse reactions occuring. The SNARL's for those compounds found in the groundwater samples are as follows:

VINYL CHLORIDE NO LIMIT SET 1 DAY - 2700 ug/1 1,2-trans-DICHLOROETHYLENE 10 DAY - 270 ug/1 TRICHLOROETHYLENE I DAY - 2000 ug/1 10 DAY - 200 ug/1 LIFETIME - 75 ug/l TETRACHLOROETHYLENE I DAY - 2300 ug/l 10 DAY - 180 ug/1 LIFETIME - 40 ug/1 1,1 DICHLOROETHANE THE SUM OF ALL TRIHALOMETHANES SHOULD NOT EXCEED 0.01 mg/1 ON A LIFETIME BASIS

Review of these data would suggest that contamination is significant (10 day exposure limit or less) in M-3 (250 ug/l 1,2-trans-dichloroethylene), M-6 (950 ug/l tetrachloroethylene) and M-8 (610 ug/l 1,2 trans-dichloroethylene).

C. RIVER BOTTOM SEDIMENT QUALITY. Appendix B contains the results of the laboratory analyses for priority pollutant metals in each of the five benthic samples (B-I through B-5) taken from the river bottom. All of the samples were characterized as dark organic peat and muck. The locations of these samples are shown on Figure 1, with the exception of B-4 and B-5 which are located outside the area depicted. B-4 is located east of the study area, about 100 feet above the large dam in the center of the Covitch property. B-5 is located west of the study area, and toward the western end of the Whitinsville Water Company property. In that the river flows west to east, B-5 is upgradient of the study area, while B-4 is downgradient.

Of the fourteen metals evaluated, only chromium appears to be cause for concern. To provide perspective, some discussion of EP Toxicity and soil samples is warranted. An EP Toxicity test evaluates both the concentration and mobility of materials such as metals in the subsurface. In terms of concentration, the leachable amount of a metal from a soil sample (ug/g) can not exceed 100 times the level set for that metal (mg/l) in the Primary Drinking Water Standards. To relate EP Toxicity in water samples to potential EP Toxicity in soil samples, multiply the Primary Drinking Water Standard for any given constituent by 2000. This conversion factor accounts for the

dilution necessary when preparing a standard soil sample for analysis. In the case of chromium, up to 410 ug/g was found in the benthic samples, and the level at which chromium is potentially EP Toxic in sediment samples is 100 ug/l.

The upgradient to downgradient (in terms of river flow) concentrations of chromium in the benthic samples were as follows:

| B-5 | | | | 65 ug/g |
|-----|----|----|---|----------|
| B-! | 4, | i. | | 410 ug/g |
| B-2 | | | 6 | 250 ug/g |
| B-3 | | | | 400 ug/g |
| B-4 | | | | 100 ug/g |

As seen, the upgradient concentration is itself moderately high, although not potentially EP Toxic. The remaining four downgradient samples all, however, exceed the criteria for delineating potential EP Toxicity. These elevated chromium concentrations can be coming from one or both of two possible sources, those being the ATF/D Arcade facility, or some unknown upgradient facility. In that ATF/D and WCI officials have stated that they have never used chromium at the Arcade facility, and because ground water samples from M-1 through M-8 showed no chromium, we must conclude that it is coming from an upgradient source.

One possible explanation of the pronounced increase in concentration between B-5 and the remaining samples (B-4 through B-1) concerns changes in the morphology of the river from the Whitinsville Water Company parcel, past the Arcade facility to the dam on the Covitch property. The dam creates a large head pong (Whitin Pond) that extends back up the river past the ATF/D Arcade facility. As chromium laden organic material flows past the channelized portion of the river opposite the Whitinsville Water Company, it can tend to remain in suspension because of adequate flow velocity. As this material enters the head pond, however, decreased flow velocity would tend to facilitate settling. As the organics degrade, the concentration of incorporated metals such as chromium would increase in the sediments. In that both textile and tannery facilities (which normally use chromium in their processes) were reported in operation further up-river (unchecked by CEH), this settling and accretion theory seems to be the most plausible explanation for the levels of contamination noted in the benthic samples.

SUMMARY

The subsurface area of this investigation is generally comprised of less than 15 feet of foundry fill overlying river bottom sediments which overlie bedrock. The site lies along the northern bank of the Mumford River which flows from west to east. Ground water generally flows south beneath the site, discharging to the river at a seepage velocity of approximately 23 feet per year.

Ground water quality beneath the site is generally good with respect to priority pollutant metals, but three monitoring wells (M-3, M-6 and M-8) showed evidence of volatile organic contamination.

The Mumford River bottom sediments are heavily contaminated with chromium in the Whitin Pond area shove the large dam on the Covitch property. The heaviest contamination appears to range from the dam, up-river past the ATF/D Arcade facility. A source upgradient of ATF/D is most likely responsible for the elevated chromium levels noted in the benthic samples.

APPENDIX A

DRILLERS LOGS

| Gla | | NGLAND BORIN OF CONN. y, CT 06033 — | INC. | field, M | | P | ROJECT | NAME | CEH ATF David Whitinsvi | | BORING NUMBER M-1 SHEET |
|-------------------|---------------------------|---|------|--|----------------------|---|-------------------------------------|-------------------------------|---|---|-----------------------------------|
| DRIL | LER | T. Roe | | ARCH | NEER | | | | | FILE NO. | No. 1 of 1 |
| | | M. Eichler 7/8/85 | | B OFFICIAL S | .D. MER WT. | | /8" | Sampler SS 1-3/8 140 | Core Barrel | SURFACE ELEV. | |
| DATE | FINISH | 7/8/85 | | | ER FALL | | | 30" | | OFFSET | |
| ОЕРТН | NO. | SA DEPTH RANGE | 01 | OWS PE | | REC. | COL. | STRATA | FIELD CL | ASSIFICATION AND REMA | ARKS |
| | Sl | 0-1.5 | 4 | 12 | 14 | 16" | | | | | |
| 5'_ | 52 | 5.0-6.5 | 1 | 2 | 1 | 14" | | | MedCrs. | Fine Sand, Little Sand, Occasional C | STORET STEEL ST. |
| 10'_ | S3 | 10.0-11.5 | 1 | 2 | 10 | 10" | | | Bricks | | |
| 15' | \$4 | 15.0-16.5 | 13 | 21 | 20 | 18" | | 14.5 | | | |
| | S5 | 18.3 | 100/ | i I | | | | 18.3 | Grey Br. Little Si Boulders | Fine-Crs. Sand and lt, Occasional Cobb | Gravel les and |
| 20 <u>'</u> | | | | | | | | · | | + 1 | |
| | | | | | | | | | HSA and S Water @ 8 | poon Refusal @ 18.3 .8 | |
| - | | | | | | | | | | Monitor Well @ 14. : 5.0 - 1½" PVC Sc 11.0 - 1½" PVC Ri 1 - Bag Ottawa 50 - lbs. Bento 1 - Bag Sand M 1 - Locking Propies | reen ser Sand nite ix |
| - | | | | | | | | | | | |
| s — t — u — | - SPLI - THIM - UND | N WALL TUBE | | Wt. fall less Der Very L Med. E | oose oose ense | 0-2 Conesi 0-2 3-4 5-8 9-1 | D. Samp ve Consi Very Soft | stency Soft | OPORTIONS US trace 0 to 10% little 10 to 20% some 20 to 35% and 35 to 50% | Developing Time M-1 - M-8 2½ Hr Developed Conse | s. |

| | | AND THE PARTY OF T | ONN. | INC. | | | | | | | CEH ATF David: | son. | BORING NUMBER |
|------------|-----------------------|--|--------------|--------------------|------------|--|------------|--------------|---------------|------|------------------------------|---|--|
| | stonbury -633-4641 | , CT 06033) | - | Springf 413-733 | | A 01103 | | | T NAME . | | Whitinsvi | | M-2 |
| DRIL | LER | T. Roe | | | ARCH | ITECT VEER | | | | | | FILE NO. | No. 1 |
| INSPE | ECTOR_ | M. Eich | nler | | TYPE | | HSA | ' 9 | Sampler SS | | | SURFACE ELEV. | |
| DATE | START | 7/8/85 | | | SIZE | .D. IER WT. | 3-3/ | 8" | | 8''_ | | LINE & STATION | |
| DATE | FINISH | 7/8/85 | | | | IER FALL | | | 30" | | | OFFSET | |
| I | | | \$A | MPLE | | | | 501 | | | | ' | *** |
| DEPTH | NO. | DEPTH R | ANGE | ON | SAMPL | | REC. | COL. | CHANG | | FIELD CLA | ASSIFICATION AND REM | MARKS |
| * 767 | SI | 0-1.5 | | | | 11 | 14" | i | Ì | | | | |
| | | | | | | | | |] | | | | |
| | | | | | | | | | - | | | | |
| ; 1 | S2 | 5.0-6.5 | <u>;</u> | 2 | 4 | 6 | 18" | <u> </u> | | | | Fine Sand, Some S: | |
| - | | | | | | | | |] | | | dCrs. Sand, Fine l Cobbles, Bricks, | |
| | | | 0.04% 6 | | | | | <u> </u> | - | | Fill | L COUDIES, DIICKS, | rounary |
| | | | * | | | | | | | | | | |
| 0 ' | S3 | 10.0-11 | 5 | 1 | 3 | 4 | 10" | | <u> </u> | | | | |
| - | | | \$1\$4.W*=10 | | | | | |] | - 1 | | | |
| | | | | | | | | | 12.0 | 1 | | | |
| | | * *** | | | | | | | 1 | | | | |
| 5 <u>'</u> | | | | | | | | | | | | | |
| ,,, | | | 8,90 1,18018 | | | | | | | | Rottom of | Boring 12.0 | |
| | | **** | | | | l 1 | | | - | | Water @ 7. | | |
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| _ | | | | | | l | | |] | | | Monitor Well @ 12 | |
| | | | | 1 | | <u> </u> | | | 4 | | Materials | 5.0 - 1½" PVC S 9.0 - 1½" PVC R | |
| | | | 5 554415 | | | | | | 1 | | - | - Bag Sand | |
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| - | | | | | | | | <u> </u> | 1 | | | l - Bag Sand | |
| | - | | | | | <u> </u> | | : | - | | | l - Locking P Pipe | rotector |
| | | | | | l | | | | 1 | Į. | | p- | |
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| | | 71000-0 | | | | | | |] | | | | |
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| | | | 22%(5-345) | | | | - | 1 | 4 | | | | |
| C A | MP1 F 1 | DENTIFICATI | ON 1 | J | ENETE | ATION F | FCICTA | NCF | 1 1 - | | | | |
| | | DENTIFICATI T SPOON | | 140 lb | . Wt. fall | ing 30" o | n 2" O.I | D. Samp | oler | | PORTIONS US race 0 to 10% | 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| | - THIN | WALL TUBE | - | Conesion 0-4 | Very L | .0054 | 0-2 | | Soft | | ittle 10 to 20% | | |
| | | ISTURBED PIS N END ROD | 1 | 5-9 0-29 | Mea. D | | 3-4 5-8 | Soft M/St | 111 | | ome 20 to 35% | | |
| | | H SAMPLE | 3 | 0-49 | Very D | ense | | Stiff | | a | nd 35 to 50% | COL. A | |

| | | OF CONN | . INC. | | | ۲ | | | | dson | BORING NUMBER |
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| | istonbur 1-633-464 | y, CT 06033 — | 5pnng 413-73 | field, Ma 3-1232 | A 01103 | | | DN | | ille, MA | SHEET |
| _ | | | | ARCH | ITECT | 1- | OCATIO | JN | - | 1 | No. 1 |
| RIL | LER _ | T. Roe | | ENGI | NEER | | | | | FILE NO | o! <u>1</u> |
| NSPI | CTOR | M. Eichler | | TYPE | | HSA | | Sampler | Core Barrel | SURFACE ELEV. | |
| ATE | STAR | т 7/8/85 | | SIZE | .D. | 3-3/ | <u>'8''</u> | | " | LINE & STATION | |
| | CINIC | н 7/8/85 | | | ER WT. | | | 140 30" | | | |
| _ | FINIS | | AMPLE | HAMN | SER FALL | | | | 1 | OFFSET | |
| EPTH | | | BL | OWS PE | | | COL. | STRATA | | LASSIFICATION AND REM | ARKS |
| DE | NO. | DEPTH RANGE | | 6-12 | | REC. | _ | CHANGE | | | |
| | Sl | 0-1.5 | 5 | 17 | 11 | 18" | | | j | | * |
| | | | - | <u> </u> | | | | - | | | |
| | | | | 1 | | | | j | | k Fine-Crs. Sand, So | |
| ·'_ | 52 | 5.0-5.7 | 1_ | 100/ | 12 | 8" | | | Boulders | vel, Asphalt, Few Co | obbies, |
| | | | - | 1 | | | 1 | 7.0 | | | |
| | | | 1 | <u> </u> | - | | | | | | |
| | | | | | | | | 1 | | Black Fine-Crs. Sar | d, Littl |
| 0'_ | 53 | 10.0-11.5 | 4 | 1 <u>5</u> | 6 | 8" | <u> </u> | - | Silt, Fi | ne Gravel | |
| | | | | * | | 84 84 85 | | 11.5 | | | |
| | | | ļ., | <u> </u> | | | | | | | |
| 5' | | | | | | 3 | 1 | 1 | | | |
| _ | | | | | l | | |] | Bottom o | f Boring 11.5 | |
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| | - | | | 1 | | | <u> </u> | 1 | Increlle | d Monitor Well @ 10. | 0 |
| _ | | | | <u> </u> | | | | | The state of the second | s: 5.0 - 12" PVC Sc | |
| | | | | | <u> </u> | | <u> </u> | - | | 7.0 - 11" PVC R | ser |
| | - | | + | | | | <u> </u> | , | | 1 - Bag Ottawa 25 - 1bs. Bento | |
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| | | IDENTIFICATION | 140 lt | . Wt. fall | ATION I | on 2" O.I | D. Samp | pler | OPORTIONS L | WORKS - COMMISSION | |
| | — тни | N WALL TUBE | 0-4 | Very L | 0050 | 0-2 | | Soft | little 10 to 2 | NATIONAL PARTY. | |
| · — | - OPE | 2.10 | 5.9 10-29 | Med. D | | 3-4 5-8 | Soft M/St Stiff | iff | some 20 to 3 | 1.0 | |
| · — | - WAS | | 30-49 50 • | Very D | ense | | Stiff V-St | | and 35 to 50 | 0% COL.A | |

| Cla | | NGLAND BORIN OF CONN. y, CT 06033 — 0 | INC. | | | P | | | CEH ATF David | | BORING NUMBER M-4 SHEET |
|------------|-------------------------------------|--|-------------|--|-----------------|------------|--|----------------------|------------------------------|--|----------------------------------|
| DRIL | LER | T. Roe | | | NEER | | | | | FILE NO. | No. 1 |
| INSPE | CTOR | M. Eichler | | TYPE | | HSA | | Sampler SS | Core Barrel | SURFACE ELEV. | |
| | | 7/9/85 | | SIZE | I.D. AER WT, | 3-3/ | 100 | 1-3/8' 140 30" | | LINE & STATION | |
| DATE | FINISH | 1 7/9/85 | | HAMA | MER FALI | | | 30_ | | OFFSET | |
| DEPTH | NO. | DEPTH RANGE | | OWS PE | | REC. | | STRATA | FIELD CL | ASSIFICATION AND REMAF | ₹KS |
| 5 | | | 0-5 | 6-12 | 12-18 | | | | | | |
| | 51 | 0-1.5 | 3 | 1 4 | 1 4 | 6" | | 4 | | | |
| | | | + | 1 | - | | - | - | 1 | | |
| | | | | <u> </u> | | | | | D11- D- | T/- 0 0 1 6 | |
| ١_ | S2 | 5.0-6.5 | 2 | 2 | 19 | 10" | | _ | | Fine-Crs. Sand, Some Little Silt, Occasions | |
| | | | - | | | | <u> </u> | 1 | | Bricks, Many Cobbles | |
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| 0 | S3 | 10.0-11.5 | 2 | 1 2 | 4 | 4" | <u> </u> | - | | | |
| | | | | | i - | | | 11.5 | | | |
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| c 1 | | | - | 1 | | | 1 | - | | | |
| 5 <u>'</u> | | | | | | | | 1 | Bottom of Water @ 5 | Boring 11.5 | |
| | | | | i | | | <u> </u> | | Installed | Monitor Well @ 10.0 | |
| | | | - | | - | | | | 1 | s: 5.0 - 11" PVC Scre | |
| - | - | | - | <u> </u> | | | <u> </u> | - | | 7.0 - 11" PVC Rise | |
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| | | DENTIFICATION | | | ATION I | | | PR | OPORTIONS U | | |
| _ | SPLITHII | 1 11/4 Tring - | | Ness Der Very L | isity | Conesi | ve Cons | istency | trace 0 to 10 | 2.66 | |
| _ | - שאנ | STURBED PISTON | 5-9 D-29 | | .00se | 3-4 5-8 | Soft | -0 | ittle 10 to 20 some 20 to 35 | | |
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| Cla | stonbur | NGLAND BORIN OF CONN. y, CT 06033 — | INC. | field, M | | P | ROJECT | | ATF David | | BORING NUMBER M-5 |
|------------|----------|---|-----------------|----------|---------------------|------------|--|---------------|------------------------|--------------------------------------|------------------------------|
| 200 | -633-46- | | 413-730 | | | L | OCATIO | DNNC | Whitinsvi | lle, MA | SHEET |
| DAIL | LER_ | T. Roe | | | NEER | | | | | FILE NO | . 1 |
| INSP | ECTOR | M. Eichler | | | | HSA | | Sampler SS | Core Barrel | SURFACE ELEV. | |
| DATE | STAR | 7/8/85 | | SIZE | I.D. | 3-3, | /8" | 1-3/8 | | LINE & STATION | |
| DATE | FINIS | 7/8/85 | | HAMI | MER WT. MER FALI | | | 140 30" | | OFFSET | |
| Ξ | | SA | MPLE | DIAC DE | 0.6" | | COL. | STRATA | | | |
| DEPTH | NO. | DEPTH RANGE | ON | SAMP | | REC. | | CHANGE | | ASSIFICATION AND REM | ARKS |
| | Sl | 0-1.5 | | 5 | 12-18 | 6" | 1 | | | | |
| | | | - | ! | | | | } | | | |
| | | | | | | | | 1 | Black Br | Fine-Crs. Sand, Sc | |
| 5'_ | S2 | 5.0-6.5 | 2 | 4 | 1 | 6" | <u> </u> |] | Gravel, L | ittle Silt, Occasio | ome rine |
| | | | | | | | | | Cobbles, | Cement, Ash | |
| | <u> </u> | | - | | | | <u> </u> | 1 | | | |
| 10' | S3 | 10.0-11.5 | 1 | 2 | 3 | 10" | | | | | |
| | | | 1 | - | | | | 11.5 | | | |
| | | | | | | | | | | × | |
| 15' | - | | | ! | | | | | Bottom of Water @ 5 | Boring 11.5 | |
| | | - | | i | | | |] | mater e s | •• | |
| | | | | · | | | | | | Monitor Well @ 10. | |
| | | | - | t i | | | 1 | | Materials | 5.0 - 1½" PVC Sc 7.0 - 1½" PVC Ri | |
| - | | | | | | | | 1 | | 1 - Bag Ottawa | Sand |
| | - | | - | <u> </u> | | - | | + | | 50 - 1bs. Bento 1 - Bag Sand N | GROUNTED PROGRAMME SPRINGERS |
| | | | | | | | | | | 1 - Locking Pr | |
| - | | | | ! : | | | <u> </u> | 1 | | Pipe | |
| | | | | | | | | | | | |
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| | | | - | <u> </u> | - | - | | 1 | | | |
| S | AMPLE | IDENTIFICATION | | | RATION I | | | PR | OPORTIONS US | SED REMARKS: | |
| A 100 PM U | | T SPOON | Conesion 0-4 | | nsity | | ve Consi | | trace 0 to 105 | | |
| 0 - | - UNI | N END ROD | 5-9 10-29 | Med. | Loose Dense | 3-4 5-8 | Soft M/St | itt | some 20 to 35 | 1 Hr. Standby | Time to |
| w - | | H CAMPLE 1 | 30-49 50 + | Very (| Dense | | 5 Stiff 0 V-St | | and 35 to 509 | COL. A COLITI | |

| Cla | | NGLAND BORIN OF CONN. , CT 06033 –) | INC. | field, M. | | P | ROJECT | | | son 2 | CRING LUMBER 1-6 SHEET |
|-------------|------------------------------------|---|-------------|--|-----------------|------------------------------------|-------------------------------------|--------------------------------------|--|---|---------------------------------|
| DRILI | LER_ | T. Roe | | ARCH | NEER | | | | | I | t <u>1</u> |
| DATE | START | M. Eichler 7/9/85 7/9/85 | | HAMA | I.D. MER WT. | _ | <u>/8"</u> _ | Sampler SS 1-3/8 140 30" | | SURFACE ELEV. | |
| ОЕРТН | NO. | SA DEPTH RANGE | ON | OWS PE | | REC. | | STRATA | | ASSIFICATION AND REMARK | |
| 5'_ | | 5.0-6.5 | 6. | 10 | S2277 S1,57 | 12" | | | | Fine-Crs. Sand, Some ew Cobbles, Boulders, lt | |
| 10 <u>'</u> | S3 | 10.0-11.5 | 1. | 1 | 1 | 8" | | 11.5 | | | |
| 15' | | | | | | | | | Water @ 5 | Boring 11.5 .5 Monitor Well @-10.0 : 5.0 - I'' PVC Scree 7.0 - I'' PVC Riser 1 - Bag Ottawa Sa 50 - lbs. Bentonit 1 - Bag Sand Mix 1 - Locking Prote | nd e Pel |
| | - SPLI - THIM - UND - OPE | N END ROD | | .Wt. fall liess Den Very L Med. C | 0030 | 0-2 Conesi 0-2 3-4 5-8 | D. Samp ve Consi Very Soft | stency Soft | OPORTIONS USI trace 0 to 10% little 10 to 20% some 20 to 35% and 35 to 50% | | |

| N | EW E | NGLAND BORI OF CON | | NTRA | CTOR | 1 | | - | | | BORING |
|----------|----------|-----------------------|--------------|--|--|----------|------------|--------------|---------------------------------|--------------------------------------|-------------|
| Cla | stonbur | y, CT 06033 — | Spring | field, M | A 01103 | | PROJEC' | T NAME _ | ATF David | ison | |
| 203 | -633-164 | - | 413-73 | 3-1232 | | | LOCATI | ON | Whitinsvi | lle, MA | SHEET |
| DRIL | LER_ | T. Roe | | 100000000000000000000000000000000000000 | NEER | | | | | FILE NO. | No. 1 |
| INSPE | CTOR | M. Eichler | | TYPE | | Ca: | sing | Sampler | Core Barrel | SURFACE ELEV. | |
| DATE | START | 7/9/85 | | | | | | | " | LINE & STATION | |
| | 2 2 | 7/0/05 | | | | | | 140 30" | | | |
| DATE | FINISH | 7/9/85 | SAMPLE | HAMA | MER FAL | <u> </u> | | | т — — | OFFSET | |
| DEPTH | NO. | DEPTH RANGE | BL 10 | OWS PE | LER | REC. | | STRATA | FIELD CL | ASSIFICATION AND REM | ARKS |
| | 51 | 0-1.5 | 1 1 | | 12-18 | 12" | | | | | |
| | | | | | | | 1 | 1 | | | |
| | | | - | | <u> </u> | | <u> </u> | - | | | |
| 5' | 52 | 5.0-6.5 | 6 | 20 | 13 | 16" | | 1 | Br. Black | Fine-Crs. Sand, Sc | me Grave |
| | | | | - | | | ļ | - | Little Si Ashes | lt, Many Cobbles, E | Brick, |
| | | | | | | - | 1 | 1 | ASHES | | |
| 10' | 53 | 9.5-11.0 | 3 | 2 | 1 | 10" | | | | | |
| | | | _ | - | <u> </u> | | 1 | 11.0 | | | |
| | | | | | | | | 11.0 | | | |
| | | | - | | | | 1 | - | | | |
| 15' | | * | | | | | - <u>H</u> | 1 | | Boring 11.0 | |
| | | | | 1 | | | | 1 | Water @ 4 | | |
| | | | - | 1 | | - | <u> </u> | 1 | | Monitor Well @ 9.5 : 5.0 - 11 PVC Sc | |
| | | | | | | | 1 | 1 | Materials | 6.0 - 11 PVC Ri | reen Ser |
| _ | | | - | <u> </u> | | | <u> </u> | 1 | | 1 - Bag Ottawa | Sand |
| | | | - | 1 | | | 1 | 1 | 18 | 50 - lbs. Bento l - Bag Sand M | |
| | | | | | <u> </u> | | | 1 | | l - Locking Pr | |
| | | | - | 1 | | | 1 | 4 | | | |
| - | | | | | | | i | 1 | | | |
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| | | | | | | | | j | | | |
| | | | _ | ! | 1 | | <u> </u> | - | | | |
| | | | - | | 1 | - | 1 | - | | | |
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| | | | | | | | l . |] | | | |
| | | | | 1 | - | | il k | 1 | | | |
| SA | MPLE | DENTIFICATION | ļ | ENETR | ATION I | RESIST | ANCE | 90 | PORTIONS US | ED BEMARIE | |
| : — | - SPLI | T SPOON | | . Wt. fall | ing 30" d | on 2" O | D. Samp | ier | trace 0 to 105 | | |
| | | WALL TUBE | 0-4 5-9 | Very L | .0014 | 0-2 | soft. | | little 10 to 209 | 279 | |
| — | - OPE | N END ROD H SAMPLE | 10-29 | Med. D | | 5-8 | | iff | some 20 to 355 and 35 to 505 | | |

| N | EW E | NGLAND BORIN OF CONN | | NTRA | CTORS | | | · | | ±8 | BORING |
|-------|----------|---------------------------------------|---------------------|--------------|---------|-------------------|----------|--------------|--|--|-----------|
| Cla | stonbur | y, CT 06033 — | | field, M | A 01103 | P | ROJEC | NAME _ | ATF David | ison | _ M-8 |
| 200 | L633-464 | 0 | 413-73 | 3-1232 | | L | OCATIO | ON NO | Whitinsvi | Ille, MA | SHEET |
| | | | | £. | NEER | | | | | | No. 1 |
| DRIL | LER | T. Roe | | ENGI | NECK | - *** | - | | | FILE NO. | |
| INSP | ECTOR | M. Eichler | | ! | | HSA | | Sempler | Core Barrel | SURFACE ELEV. | <u></u> |
| DAT | CTART | 7/9/85 | | TYPE | I.D. | | | 1-3/8 | , | LINE & STATION | |
| | | · · · · · · · · · · · · · · · · · · · | | | | | | 140 | | LINE & STATION | 700 |
| DATE | FINISH | 7/9/85 | | HAM | JER FAL | | | 30" | ,- | OFFSET | |
| Ξ | | s, | AMPLE BL | OWS PE | R 6" | | COL. | STRATA | | ACCIDICATION AND DES | ***** |
| DEPTH | NO. | DEPTH RANGE | | SAMPI | 12-18 | REC. | A | CHANGE | FIELD CL | ASSIFICATION AND REA | MARKS |
| | SI | 0-1.5 | | | 8 | 12" | | | | | |
| | | | | <u> </u> | | | |] | 1 | | |
| | | | 1 | i | | | | - | | | |
| · _ | 52 | 5.0-6.5 | 2 . | 1 4 | 16 | 8" | <u> </u> | 1 | Black Br. | Fine-Crs. Sand, Se | ome Grave |
| | - | | - | <u>!</u> | | | <u> </u> | - | and Bould | lt, Bricks, Ashes, lers | rew Cob |
| | | | | 1 | | | |] | | | |
| 01 | 53 | 9.8-11.3 | 14 | 113 | 4 | 14" | 1 | | | | |
| | 33 | 9.0-11.3 | 10 | 1 | 14 | 14 | | 11.3 | | | |
| | | | | | | | | 1111 | | | |
| | - | | | | - | | | 1 | | | |
| 5'_ | | | | | | | | 1 | | of Boring 11.3 | |
| | | | | 1 | 1 | | | 1 | Water @ 5 | .0 | |
| | | | | | | | |] | | Monitor Well A 9. | |
| | | | | 1 - | - | | | - | Materials | 5: 5.0 - 1½" PVC so 6.5 - 1½" PVC R | creen |
| - | | | | 1 | | | | 1 | | 1 - Bag Ottaw | a Sand |
| | | | | 1 | - | | ji H | 1 | | 50 - 1bs. Bento | onite Pe |
| | | | | † | | | | } | | 1 - Bag Sand I1 - Locking P | |
| - | | | | i | | | 1 |] | 1 | | |
| | _ | ! | + | ! | | | <u>!</u> | | | | |
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| | | <u> </u> | 1 | 1 | - | | <u>#</u> | 1 | | | |
| | | | | ! | | | 1 | | | | |
| | | | + | - | - | | 1 | | | | |
| S | AMPLE | IDENTIFICATION | | | ATION | | | PR | OPORTIONS U | SED REMARKS: | |
| | | IT SPOON N WALL TUBE | Conesio | niess Dei | | Conesi | ve Conse | stency | trace 0 to 10 | x | |
| J | עאני — | DISTURBED PISTON | 0-4 5-9 10-29 | Med. | _0014 | 0-2 3-4 5-8 | Soft | Soft | tittle 10 to 20 | | |
| ~ – | | SHISAMPLE | 30-49 50 • | | Dense | 9-1 | 5 Stiff | | and 35 to 50 | 536 | 75-75-75 |

APPENDIX B

LABORATORY DATA

LOCATION: ATF Davidson, Whitinsville, MA

ENGINEERS: Caswell, Eichler, and Hill

SAMPLING DATE: 7/18/85

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | COND umhos/ | ./TEMP. cm °C | pН, |
|----------------|----------------|----------|------|------------------------------------|----------------|------------------|------|
| M-1 | 14' | 1.5" | 0950 | 8.31' | 425 | 20.0 | 7.25 |
| M-2 | 12' | 1.5" | 1000 | 8.75 | 300 | 19.5 | 8.50 |
| M-3 | 10' - | 1.5" | 1010 | 6.901 | 260 | 21.5 | 6.35 |
| M-4 | 10' | 1.5" | 1015 | 7.681 | 225 | 24.0 | 8.20 |
| M-5 | 10' | 1.5" | 1017 | 7.351 | 365 | 24.0 | 7.30 |
| M-6 | 10' | 1.5" | 1018 | 7.47' | 235 | 25.0 | 6.85 |
| M-7 | 9.51 | 1.5" | 1020 | 6.81' | 325 | 24.0 | 9.80 |
| M-8 | 9.81 | 1.5" | 1023 | 7.13' | 165 | 22.0 | 7.30 |

Total depths come from the well plans.

| | Prula | ct Nam | | | | | | | | /: | ,— | 7-0 | Y _ | 7 7 | ** | | |
|--------------------------|-------|--------|-------|---------|--|--------------------------|--|--------|---------------|---------------|-----------------------|------------------|-----------------|-------------|-------|------|--------------------|
| Proj. Ho, | A | TF | | ٠, ١, ١ | Son | | No. | | | | ရင် ရန် | 134 | | | | | |
| Samplers; (E | Mes | 0.5/3 | | Red | -6: | l | of con- | 1 | (g) | 13 | | | | | Ren | arks | |
| | Date | Time | Сопр. | Grab | Station | Location | tainers | 700 | | | 100 | \mathbf{V}_{i} | \int_{Γ} |) t. ! | .e(G) | 7/0] |) p 1610 |
| M- 1 7 | 11/85 | 14 15 | | 4 | | , , | 3 | / | / | ب | 27.0 | 1.5 | - 1 | 31' | | 14' | Du |
| 11.2 | | 1432 | | 1 | | 1 . | | / | V | / | 10. | 0.9 | 8 | 751 | | 12' | /טיכו |
| 11.3 | | 1570 | | 1 | | A · | | V | <i>J</i> | 29 | 260 | 0.8 | 6 | 90 | | 101 | 101 |
| 111-4 | | 1345 | | 1 | <i>.</i> | ı' | | Ų | 1 | Ų | 200 | 0,6 | 7 | 1.68 | | 10' | 101: |
| M | | 1330 | | 1/ | <u>, </u> | | | U | * _/ | U | 35.50 2000 2000 | 1.7 | 2 | ,35 | 1 | 10' | 101 |
| 14-6 | | 145 | | Ú | | | | 4 | 1 | | ZEE | | 2. | 47 | | 10' | :01 |
| w-7 | | 1110 | | U | | | | ,l | V | \checkmark | 35.55 85.55 | 2.7 | 6 | .81 | - 20 | 9.5 | 107 |
| M- 8 | | 1055 | | 1 | | | | | V | | 8.5% | 07 | | 13 | | 9.8 | - 1923 |
| M-3 | 1 | 1510 | | 1 | | | | | | | | | \n | Oil | 77.6 | real | L result |
| Relinquish (Signature | | | ر | Date | /Time /955 | Received by (Signature | | 100000 | ilin Ign | - | | d by | ! | Date | Time | 100 | nived t gnature |
| Relinquish (Signature | | : | , | Date | /Time | Received b (Signature | | | el in Gign | | | d by | : | Date | Time | | eived i gnature |
| (Signature | | : | | Date | /Time | Received for (Signature) | ved for Laboratory by: Date/Time Remarks | | | | | | | | | | |

| Proj. Ho. Samplaro: | | ATF | | V:0 | المار دوي | towilk, MA | No. of con- | // | 2000 | | | | // | | Rema | rks |
|--------------------------------------|--|------|-------|-------|--------------------------|---------------------------------------|-------------------|------------|-------------|------|-----|-----------|-------|-------|---|--------------------------|
| Sta. No. | Date | Time | Сопр. | Grab | Station | Location | tainers | 10 | 10 | . / | / | / | / | | | |
| | 7/1/85 | 1610 | | V | See | map b. low | | <u> </u> | 7 | - | | | | | | |
| 3 | | 1625 | | 1 | | . | | V V | 7 | • | | | | | - 1 2 × 4 × 4 × 4 × 4 × 4 × 4 × 4 × 4 × 4 × | |
| 14 | 6 | 1640 | | 1 | | | | 1 | J | | | | | | | |
| | | | | | | sindle d | stainery | | | | | | | | | |
| | | | | | 61 6- | x 2 | 84 | | | | | _ | | | _i | |
| | | | | | | · · · · · · · · · · · · · · · · · · · | | · | | | | | | | | |
| Relinquis (Signatur | The second secon | - H | | Date | /Time | Received b (Signature | di . | | l in ign | | | l d by | / ¹ | Date | Time | Received (Signature |
| Relinquished by: (Signature) | | | | /Time | Received b (Signature | | | 11n 1gn | | | 0.7 | y i | Date | /Time | Received (Signature | |
| Relinquished by: Date/T. (Signature) | | | Time | 1 | / 1 | tory | , Бу | | The Fig | t e/ | ooc | | Remar | ka | | |

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| | | | BOX 4//6 | (603) 926-7777 |
|-------|-------------------------------------|---|---------------|------------------|
| TO: | 26 | _ | PO# ATF D | |
| | - 700 di M | Ĭ | Date Received | : 7-19-85 (8:10) |
| Caswe | fatt Eichler ell, Eichler & Hill | | Lab Number: | 5008 |
| | Box 4696 mouth, NH 03801 | | Date Reported | : 8-13-85 |
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Resource Analysts, Incorporated

Please find attached results for Volatile Organic Compounds, Total Cyanide, Oil and Grease, Barium, and Priority Pollutant Metals.

Date \$ 13 85

Technical Director

| | | | | | | . * | | • | | | | | -j | ``` | | | |
|-------------------------------------|---------|-------------|--------------------------|---------|---------|--------------------------|------------|------|---------|------|--------------|------|--|----------|-------|------|------------------|
| roj. Ho, | Proje | ect Nam | 0 | | | | No. | | 1/ | 201. | | 1 | 1 | 15/ | / | | |
| | | 76 | Q | نند | dean | | | | | . / | 0./ | | 3/ | | | | 1 |
| amplers | (Bignat | <u>-1-f</u> | | Plas. | Side | l | of con- | / | 87/2 N | | | 1 | | | Rema | rks | |
| ta. No. | Date | Time | Сопр. | Grab | Station | Location | tainers | 100 | 15 | | 1 | | Of Ind | ti bu | (C) = | 7/0D | 14h |
| M- L | 7/1/8 | 14/5 | | <u></u> | | | 7 | / | 1 | V, | 276 276 | 1.5 | 12. | 31' | | 14' | 0110 |
| in 2. | | 1432 | | 1 | | | | _ | v | ! |):(<u>·</u> | 0,9 | 8,7 | 15' | | 12' | 1000 |
| 111. 3 | | 1570 | | 1/ | | .1" · | | v | | ٠ ٿ | :3. | 2.3 | 6.9 | <u>n</u> | | 10 1 | 10/1 |
| 11. 4 | | 1300 | | 1 | | | | U | ~ | U | | 26 | 7. | 66' | | 0 | 1005 |
| 111 - | | 1335 | | L. | | | ./ | V | · // | U | 5.55 |).7 | 12. | 30 | 1 / | o'_ | 1017 |
| 111.6 | | 1016 | | 17 | | | | (j | U. | V | 3.00 | 0.7 | 2.7 | 17 | | ٥′_ | , !? |
| W 7 | | 1110 | | !/ | , | | | l | v | ~ | 300 | 27 | 6.8 | 71 | 19 | ,5/ | 1025 |
| M. 7 | | 1956 | | 1 | | • | | | V | _ | 3,2 | رين | 2 | 13' | 10 | 1.5 | 123 |
| M. 3 | 1 | 1510 | | 1 | • | | 1.1: | | | | | | 1500 | Oil | 4.64 | eare | The state of the |
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| Proj. Ho. | | | | 787—36—36. s | | The party of the p | No. | | ./ | 198 | / / | | / | // | o 18 or other services | |
| | <u> </u> | ATE | <u> D</u> | , v;e | Long Whi | tosville, MA | | | 15 | <i>)</i> /, | <i>i</i> / | | / | / | | ţ |
| Samplers | (Signat | ure) | | • | | | of | , | 12 % | 18 | / | / , | / | / | Remai | rks |
| Jill | le | 100 M | | | | | con- | 1 | 3/ | 5/ | / / | ' / | | / | | |
| Sta. No. | Date | Time | Сощо. | Grab | Station | Location | tainers | (3) | | | | | | | | |
| B-1 | 7/1/18 | 1610 | | V | Sec | map les lous | | | J | | | | | | | |
| 2 | | 1625 | | ١ | | μ | | V | J | • | | | \$\$ | | | 20. |
| 3 | | 1640 | | 1 | | | | 7 | J | | | | | | | |
| 14 | 6 | 1650 | | 1 | | | V | J | J | | | | | | • | |
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| | | | | | 6.1 | 2 8.4 | 8-5" | - | - | | | | | | | |
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| Relinqui (Signatu | shed by | | | Date 1/18 | 1 | Received b | | | l in ign | 970 | | d by | /1 | Date | Time | Received by: (Signature) |
| Relinqui | shed by | : | ` | | e/Time | Received b | | | | - | | d by | ,; | Date | /Time | Received by |
| (Signatu | (Signature) (Signature | | | | (Signature |) | G | 31gn | atu | re) | | | | | (Signature) | |
| 9 70 2 | 7/2 | | | | Received f | / 1 | tor | by | 1 | Da | t e / 1 | | 1 | Remar | kя | |
| (Signatu | re) | | 8 | | | Signature | reuse | | | | 7/18/ | 85/2 | 000 | | | |
| L | | | | | · · · · · · | 1.71. | 12 1 1 | | | | نبيطني | | | | | • |

Caswell, Eichler, & Hill Laboratory Number 5008 8-13-85

Field Identification: M-1 Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-9 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-17 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-17 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-17 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | < 0.2 |
| 5008-17 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-17 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-17 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-17 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-17 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-17 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-17 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-17 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-17 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-17 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-17 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.028 |

Field Identification:

M-2

Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-10 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-18 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-18 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-18 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | <0.2 |
| 5008-18 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-18 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-18 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-18 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-18 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-18 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-18 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-18 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-18 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-18 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-18 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.045 |

- Reference: 1. EPA 600/4-79-020
 2. Standard Methods, 16th Edition
 3. EPA SW 846, 2nd Edition

Field Identification: M-3Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-11 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-19 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-19 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-19 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 0.34 |
| 5008-19 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-19 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-19 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-19 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-19 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-19 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-19 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-19 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-19 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-19 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-19 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.022 |
| 5008-29 | Oil and Grease (mg/L) | 7-25-85 | 413.2 | 1 | <5 |

Field Identification: Matrix: Liquid M-4

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-12 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-20 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.005 |
| 5008-20 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-20 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 1.0 |
| 5008-20 | Beryllium, recoverable (mg/L) | 725-85 | 303C | 2 | < 0.002 |
| 5008-20 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-20 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-20 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-20 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | <0.0006 |
| 5008-20 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-20 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-20 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-20 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-20 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | . 2 | < 0.6 |
| 5008-20 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.021 |
| | , | VE. | | | |

Reference: 1. EPA 600/4-79-020
2. Standard Methods, 16th Edition
3. EPA SW 846, 2nd Edition

Field Identification: M-5 Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-13 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-21 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-21 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-21 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 2.9 |
| 5008-21 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-21 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-21 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-21 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.005 |
| 5008-21 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-21 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.02 |
| 5008-21 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-21 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-21 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-21 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-21 | Zinc, recoverable (mg/L) | 8-7-85 . | 303A | 2 | 0.016 |

Field Identification: M-6Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-14 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-22 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-22 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-22 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 0.91 |
| 5008-22 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | <0.002 |
| 5008-22 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.003 |
| 5008-22 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.005 |
| 5008-22 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.005 |
| 5008-22 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | <0.0006 |
| 5008-22 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.02 |
| 5008-22 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.03 |
| 5008-22 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-22 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | <0.01 |
| 5008-22 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.6 |
| 5008-22 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.020 |

Reference: 1. EPA 600/4-79-020
2. Standard Methods, 16th Edition
3. EPA SW 846, 2nd Edition

Field Identification: M-7

Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-15 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-23 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-23 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-23 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | <0.2 |
| 5008-23 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-23 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-23 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-23 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-23 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-23 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.02 |
| 5008-23 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-23 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-23 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-23 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.016 |

Field Identification:

M-8

Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-16 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | 0.03 |
| 5008-24 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-24 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-24 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 1.2 |
| 5008-24 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-24 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | - < 0.003 |
| 5008-24 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-24 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-24 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-24 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-24 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-24 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-24 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-24 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-24 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.010 |

Reference:

EPA 600/4-79-020
 Standard Methods, 16th Edition
 EPA SW 846, 2nd Edition

Field Identification: B-1 Matrix: Solid

| Lab Number | Parameter | Date analyze | d <u>Method</u> | Ref. | Concentration |
|------------|-------------------------------|--------------|-----------------|------|---------------|
| 5008-25 | Silver, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | <0.5 |
| 5008-25 | Arsenic, recoverable (ug/g) | 8-6-85 | 3050/304 | 1/2 | 26 |
| 5008-25 | Barium, recoverable (ug/g) | 8-8-85 | 3050/303A | 1/2 | 160 |
| 5008-25 | Beryllium, recoverable (ug/g) | 8-9-85 | 3050/303C | 1/2 | 1.4 |
| 5008-25 | Cadmium, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 1.9 |
| 5008-25 | Chromium, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | 410 |
| 5008-25 | Copper, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 110 |
| 5008-25 | Mercury, recoverable (ug/g) | 7-23-85 | 7471 | 1 | 0.34 |
| 5008-25 - | Nickel, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | 17 |
| 5008-25 | Lead, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 150 |
| 5008-25 | Antimony, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | <80 |
| 5008-25 | Selenium, recoverable (ug/g) | 7-25-85 | 3050/304 | 1/2 | < 1 |
| 5008-25 | Thallium, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | <60 |
| 5008 | Zinc, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 520 |

Field Identification: B-2 Matrix: Solid

| Lab Number | Parameter | | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---|---------------|-----------|------|---------------|
| 5008-26 | Silver, recoverable (ug/g) | • | 8-9-85 | 3050/303A | 1/2 | <0.5 |
| 5008-26 | Arsenic, recoverable (ug/g) | | 8-6-85 | 3050/304 | 1/2 | 26 |
| 5008-26 | Barium, recoverable (ug/g) | | 8-8-85 | 3050/303A | 1/2 | 140 |
| 5008-26 | Beryllium, recoverable (ug/g) | | 8-9-85 | 3050/303C | 1/2 | 1.1 |
| 5008-26 | Cadmium, recoverable (ug/g) | | 8-7-85 | 3050/303A | 1/2 | 2.5 |
| 5008-26 | Chromium, recoverable (ug/g) | | 8-9-85 | 3050/303A | 1/2 | 250 |
| 5008-26 | Copper, recoverable (ug/g) | | | 3050/303A | 1/2 | 45 |
| 5008-26 | Mercury, recoverable (ug/g) | | | 7471 | 1 | 0.39 |
| 5008-26 | Nickel, recoverable (ug/g) | | | 3050/303A | 1/2 | 8.3 |
| 5008-26 | Lead, recoverable (ug/g) | | | 3050/303A | 1/2 | 58 |
| 5008-26 | Antimony, recoverable (ug/g) | | | 3050/303A | 1/2 | <80 |
| 5008-26 | Selenium, recoverable (ug/g) | | | 3050/304 | 1/2 | <1 |
| 5008-26 | Thallium, recoverable (ug/g) | | | 3050/303A | 1/2 | < 50 |
| 5008-26 | Zinc, recoverable (ug/g) | | 8-7-85 | 3050/303A | 1/2 | 460 |

Reference:

EPA SW 846, 2nd Edition
 Standard Methods, 16th Edition

Field Identification: B-3

| Lab Number | Parameter | Date analy: | zed Method | Ref. | Concentration |
|------------|-------------------------------|-------------|------------|------|---------------|
| 5008-27 | Silver, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | <0.5 |
| 5008-27 | Arsenic, recoverable (ug/g) | 8-6-85 | 3050/304 | 1/2 | 28 |
| 5008-27 | Barium, recoverable (ug/g) | 8-8-85 | 3050/303A | 1/2 | 180 |
| 5008-27 | Beryllium, recoverable (ug/g) | 8-9-85 | 3050/303C | 1/2 | 1.5 |
| 5008-27 | Cadmium, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 2.9 |
| 5008-27 | Chromium, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | 400 |
| 5008-27 | Copper, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 110 |
| 5008-27 | Mercury, recoverable (ug/g) | 7-23-85 | 7471 | 1 | 0.35 |
| 5008-27 | Nickel, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | 12 |
| 5008-27 | Lead, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 150 |
| 5008-27 | Antimony, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | <80 |
| 5008-27 | Selenium, recoverable (ug/g) | 7-25-85 | 3050/304 | 1/2 | <1 |
| 5008-27 | Thallium, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | <60 |
| 5008-27 | Zinc, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 920 |

Field Identification: B-4 Matrix: Solid

| Lab Number | Parameter | Date analyzed | <u>Method</u> | Ref. | Concentration |
|------------|-------------------------------|---------------|---------------|-------|---------------|
| 5008-28 | Silver, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | <0.5 |
| 5008-28 | Arsenic, recoverable (ug/g) | 8-6-85 | 3050/304 | 1/2 | 26 |
| 5008-28 | Barium, recoverable (ug/g) | 8-8-85 | 3050/303A | 1/2 | 120 |
| 5008-28 | Beryllium, recoverable (ug/g) | 8-9-85 | 3050/303C | 1/2 | 1.1 |
| 5008-28 | Cadmium, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 0.9 |
| 5008-28 | Chromium, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 . | |
| 5008-28 | Copper, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 53 |
| 5008-28 | Mercury, recoverable (ug/g) | 7-23-85 | 7471 | 1 | 0.35 |
| 5008-28 | Nickel, recoverable (ug/g) | 8-9-85 | 3050/303A | 1/2 | 9 |
| 5008-28 | Lead, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 350 |
| 5008-28 | Antimony, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | <80 |
| 5008-28 | Selenium, recoverable (ug/g) | 7-25-85 | 3050/304 | 1/2 | <1 |
| 5008-28 | Thallium, recoverable (ug/g) | 8-12-85 | 3050/303A | 1/2 | < 60 |
| 5008-28 | Zinc, recoverable (ug/g) | 8-7-85 | 3050/303A | 1/2 | 310 |

Reference: 1.

EPA SW 846, 2nd Edition Standard Methods, 16th Edition

Matrix: Solid

| CHAIN OF CUSTODY DOCUMENTATIO | | ** | CLIENT_A | TF. | DOUDSO | | . 01 | |
|--|--------------|----------------------|--------------------------|------------------|-----------------------|---|--------------|-------|
| CASWELL EXHLER | HILL | | ADDRESS : | | | | | |
| | | • | , | | H=1.1 | ······································ | | |
| | ** | | LOR NAMI | F /NIIMBER | | | | |
| PROJECT CONTACT MATE ETCHO | en_ | | 000 111111 | ., | | | | |
| SAMPLING LOCATION | | | 24Mbre Corre | C TOR MAT | T EICHLE | R_ | | |
| FIELD IDENTIFICATION List each container separately | LAB # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- | FIELD PRESERVATION | REHARKS/AN | ALYSIS REQUE | ESTED |
| B-5 (Water Company) Muntord River Benthit Sampler | وسر رسی | 183011d | QP/ mL | | | PRIORIT | POLLYTT | WT |
| Date 8/14/85 Ilno 3:30 | 5153 | OLiquid Other | Q 6/ mt & 6/1/1000mt | Q lab | NONE | METALS | | |
| | | Osolid | OP/ nt | | | METAUL | | |
| | | OLiquid | Q G/ mL | Q lab | | | | |
| Date - Time | | O Solld | OG/I/ nL | O none | | 1. | | |
| | | | 6/ mL G/I/ ml | O lab | | | | |
| Date Time | · | 8 Liquid Other | QG/I/ ml | Q none | | | | |
| | | Solld | | O flold O lab | | | | |
| Date Time | | Oliquid Olther | | Onone | | | | |
| | 1 | Osolid | OP/ mL | | | | | |
| 2 - 51 | | OLiquid | QG/ mL | Q lab | | | | · |
| Date Time | | Quther | | O none | | | | |
| | | O Solid O Liquid. | | O field | | | | |
| Date | | Other | · × . | Onone | | | | |
| | | Osolid | 10. | Ofield | | | | |
| No. | | Oliquid | QG/ mL | _ | | *************************************** | | |
| Date Time | | Oother | | O none | · | | | |
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| Date Time | | Other | OG/1/ ml | O none | |] | | |
| Relinquished By: | Date | lime | Received Byt. | | | | Date | line |
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| Reidinguished By: | 1918 1918 | | Received For | Laboratory | By!) Eleste Inc | ornordad | 8/14/85 | 1815 |

Caswell, Eichler and Hill Laboratory Number: 5153 8-27-85

Field Identification: B-5 (Water Company) Mumford River BENTHIC Matrix: Solid

Laboratory Number: 5153-1

| Parameter | Date analyzed | Method | Ref. | Concentration |
|---|--------------------|------------------------|------|---------------|
| Silver, recoverable (ug/g) | 8-22-85 | 3050/303A | 1/2 | 0.86 |
| Arsenic, recoverable (ug/g) | 8-23-85 | 3050/304 | 1/2 | 16 |
| Beryllium, recoverable (ug/g) | 8-22-85 | 3050/303C | | 0.57 |
| Cadmium, recoverable (ug/g) Chromium, recoverable (ug/g) | 8-19-85 | 3050/303A | 1/2 | 0.38 |
| | 8-19-85 | 3050/303A | 1/2 | 65 |
| Copper, recoverable (ug/g) | 8-19-85 | 3050/303A | 1/2 | 10 |
| Mercury, recoverable (ug/g) | 8-21-85 | 7471 | 1 | <0.4 |
| Nickel, recoverable (ug/g) Lead, recoverable (ug/g) | 8-22-85 | 3050/303A | 1/2 | 3.8 |
| | 8-23-85 | 3050/303A | 1/2 | 14 |
| Antimony, recoverable (ug/g) Selenium, recoverable (ug/g) | 8-23-85 | 3050/303A | 1/2 | <5 |
| | 8-22 - 85 | 3050/304 | 1/2 | <10 |
| Thallium, recoverable (ug/g) Zinc, recoverable (ug/g) | 8-23-85 8-19-85 | 3050/303A 3050/303A | 1/2 | <5 150 |

Reference: 1. EPA SW 846, 2nd Edition 2. Standard Methods, 16th Edition

Lab Number: 5008-1
Sample Designation: M-1
Date analyzed: 7-24-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|--------------------|----------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | (ug/L) BDL BDL BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | . 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | BDL | 5 5 5 5 5 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROWD ICHLOROMETHANE | BDL | 5 |
| CARBON TETRACHLORIDE . | BDL BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE BENZENE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-Dichloropropene 1,1,2-Trichloroethane 2-Chloroethyl vinyl ether Dibromochloromethane Bromoform Tetrachloroethylene 1,1,2,2-Tetrachloroethane | BDL BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | . 5 . 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| ACETONE CARBON DISULFIDE THF | BDL | 5 |
| | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

Lab Number: 5008-2 Sample Designation: M-2 Date analyzed: 7-24-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|-----------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE | | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 5 5 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDI. | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | - 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

Lab Number: 5008-3
Sample Designation: M-3
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|--------------------------------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | 190 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | (ug/L) BDL 190 BDL BDL BDL BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 , |
| 1,2-trans-DICHLOROETHYLENE | 250 | 5 |
| aut ababani | BDL | 5 |
| 1,2-DICHLOROETHANE | | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL BDL | 5 |
| | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 10 | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | B D T | . 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | - 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | |
| XYLENES . | BDL | 5 5 |
| | | • |

Lab Number: 5008-3 (Laboratory Duplicate)
Sample Designation: M-3
Date analyzed: 7-26-85

| VOLATILE ORGANICS | | |
|--|--|------------------|
| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
| CHIODOMPHUANE | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | (ug/L) BDL 210 BDL BDL BDL BDL | 10 |
| CHIODORTHAND | 210 | 10 |
| DROMOMETUANE | BDT | 5 |
| DRUMUME I RANE | RDT | 10 |
| TELCHLOROFI HODOVETHAND | BDL | |
| TRICHLOROFLOOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | RDT | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | | 5 5 5 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| | BDL | 5 |
| CARBON IEIRACHLURIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 5 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 10 | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BUL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | · 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | . 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | A CONTRACTOR OF THE PROPERTY O | 1889 |

Lab Number: 5008-4
Sample Designation: M-4
Date analyzed: 7-26-85

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENTRATION (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL | DETECTION LIMIT |
|---|--|---------------------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL BDL BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| BENZENE 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | חת | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 ~ . |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-79-020 METHOD 624

Lab Number: 5008-5 Sample Designation: M-5 Date analyzed: 7-26-85

| CHLOROMETHANE VINYL CHLORIDE VINYL CHLORIDE CHLOROETHANE BDL CHLOROETHANE BDL CHLOROETHANE BDL CHLOROETHANE BDL BROMOMETHANE BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|--|---------------|-----------------|
| MEHYLENE CHACKIDE TRICHLOROFLUDROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROBENZENE BDL 5 | | (ug/L) | (ug/L) |
| MEHYLENE CHACKIDE TRICHLOROFLUDROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROBENZENE BDL 5 | CHLOROMETHANE | BDL | 10 |
| MEHYLENE CHACKIDE TRICHLOROFLUDROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROBENZENE BDL 5 | VINYL CHLORIDE | BDL | 10 |
| MEHYLENE CHACKIDE TRICHLOROFLUDROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROBENZENE BDL 5 | CHLOROETHANE | BDL | 5 |
| MEHYLENE CHACKIDE TRICHLOROFLUDROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROBENZENE BDL 5 | BROMOMETHANE | BDL | 10 |
| I, 1-DICHLOROETHYLENE BDL 5 1, 1-DICHLOROETHYLENE BDL 5 1, 2-trans-DICHLOROETHYLENE BDL 5 1, 2-DICHLOROETHANE BDL 5 1, 2-DICHLOROETHANE BDL 5 1, 1, 1-TRICHLOROETHANE BDL 5 1, 1, 1-TRICHLOROETHANE BDL 5 ERROMODICHLOROMETHANE BDL 5 1, 2-DICHLOROPROPANE BDL 5 1, 3-trans-DICHLOROPROPENE BDL 5 I, 3-trans-DICHLOROPROPENE BDL 5 I, 3-cis-DICHLOROPROPENE BDL 5 1, 1, 2-TRICHLOROETHANE BDL 5 1, 1, 2-TRICHLOROETHANE BDL 5 DIBROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 CHLOROETHYLENE BDL 5 BCHLOROETHYLENE BDL 5 CHLOROBENZENE BDL 5 CH | METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHANE BDL 5 1,2-trans-DICHLOROETHYLENE BDL 5 1,2-trans-DICHLOROETHYLENE BDL 5 1,2-DICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 1,1-TRICHLOROETHANE BDL 5 CARBON TETRACHLORIDE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 ITRICHLOROETHYLENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 TOLUENE BDL 5 TOLUENE BDL 5 TOLUENE BDL 5 CHLOROETHYLENE BDL 5 TOLUENE BDL 5 TOLUENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE BDL 25 MEK BDL 25 MIBK BDL 25 MIBK BDL 25 STYRENE BDL 25 STYRENE BDL 25 STYRENE BDL 25 STYRENE BDL 25 STYRENE BDL 25 STYRENE BDL 25 STYRENE BDL 25 | INICALOROFLOOKOMEINKE | BDL | 5 |
| RELLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BDL 5 BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPENE BDL 5 TRICHLOROETHYLENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHOROMETHANE BDL 5 DIBROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 BDL 5 CHLOROBENZENE BDL 5 | 1,1-DICHLOROETHYLENE | BDL | 5 |
| RELLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BDL 5 BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPENE BDL 5 TRICHLOROETHYLENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHOROMETHANE BDL 5 DIBROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 BDL 5 CHLOROBENZENE BDL 5 | 1,1-DICHLOROETHANE | BDL | 5 |
| RELLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BDL 5 BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPENE BDL 5 TRICHLOROETHYLENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHOROMETHANE BDL 5 DIBROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 BDL 5 CHLOROBENZENE BDL 5 | 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROETHANE BDL 5 C-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CACETONE CARBON DISULFIDE BDL 5 MEK BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE | | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROETHANE BDL 5 C-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CACETONE CARBON DISULFIDE BDL 5 MEK BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE | 1,2-DICHLOROETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROETHANE BDL 5 C-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CACETONE CARBON DISULFIDE BDL 5 MEK BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE | 1,1,1-TRICHLOROETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROETHANE BDL 5 C-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CACETONE CARBON DISULFIDE BDL 5 MEK BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE | CARBON TETRACHEURIDE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROETHANE BDL 5 C-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CACETONE CARBON DISULFIDE BDL 5 MEK BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE BDL 5 STYRENE | BROMODICHLOROMETHANE | BDL | 5 |
| 1,3-trads-DICHLOROPROPENE | 1,2-DICHLOROPROPANE | BDL | 5 |
| TRICHLOROETHYLENE BDL BENZENE BDL 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 2-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE CARBON DISULFIDE BDL 5 THF BDL 5 | 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| BENZENE 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE ETHYLBENZENE BDL 5 CARBON DISULFIDE MEK MIBK BDL 5 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 7 BDL | The state of the s | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | | | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | DIBROMOCHLOROMETHANE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | BROMOFORM | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 25 MEK MIBK BDL 25 STYRENE BDL 5 BDL 25 | TETRACHLOROETHYLENE | BDL | 5 |
| TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 25 BDL 35 | 1,1,2,2-TETRACHLOROETHANE | BDL | '5 ' |
| ACETONE CARBON DISULFIDE THF MEK MIBK STYRENE BDL 5 BDL 25 | TOLUENE | BDL | 5 |
| ACETONE CARBON DISULFIDE THF MEK MIBK STYRENE BDL 5 BDL 25 | | BDL | 5 |
| CARBON DISULFIDE BDL 5 THF BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 | ETHYLBENZENE | BDL | |
| CARBON DISULFIDE BDL 5 THF BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 | | BDL | 25 |
| ### BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 | A CONTRACTOR OF THE PROPERTY O | BDL | |
| MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 | | BDL | |
| MIBK BDL 25 STYRENE BDL 5 | | BDL | |
| STYRENE BDL 5 | | BDL | |
| XYLENES BDL 5 | | BDL | |
| | XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-79-020 METHOD 624 Lab Number: 5008-6
Sample Designation: M-6
Date analyzed: 7-26-85

| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENSE | |
|--|---------------|-----------------|
| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
| CULODOMETUANE | (ug/L) | (ug/L) |
| UINVI CUIODIDE | BDL | 24 |
| CHIODOFTHAND | BDL | 24 |
| DDOMOMETHANE | BDL | 12 |
| MEMUVIENE CHIODERD | BDL | 24 |
| METHYLENE CHLORIDE | BDL | 12 |
| THICHLORDILUOROMETHANE | BDL | 12 |
| 1,1-DICHLOROETHYLENE | BDL | 12 |
| 1,1-DICHLOROETHANE | BDL | 12 |
| 1,2-trans-DICHLOROETHYLENE | 15 | 12 |
| CHLOROFORM | | |
| 1,2-DICHLOROETHANE | BDL | 12 |
| 1,2-trans-DICHLOROETHYLENE CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 12 |
| CARBON TETRACHLORIDE | BDL BDL | 12 |
| BROMODICHLOROMETHANE | BDL | 12 |
| 1,2-DICHLOROPROPANE | BDL | 12 |
| 1,3-trans-DICHLOROPROPENE | BDL | 12 |
| TRICHLOROETHYLENE | 30 BDL | 12 |
| BENZENE 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 12 |
| 1,3-cis-DICHLOROPROPENE | BDL | 12 |
| 1,1,2-TRICHLOROETHANE | BDL | 12 |
| 2-CHLOROETHYL VINYL ETHER | BDL BDL | 12 |
| DIBROMOCHLOROMETHANE | BDL | 12 |
| BROMOFORM | BDL | 12 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | 950 | 12 |
| TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | . 12 |
| TOLUENE | BDL | 12 |
| CHLOROBENZENE | BDL | 12 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL BDL | 12 |
| | | |
| ACETONE CARBON DISULFIDE | BDL | 60 |
| CARBON DISULFIDE | BDL | 12 |
| | BDL | 60 |
| MEK | BDL | 60 |
| MIBK | BDL | 60 |
| STYRENE | BDL | 12 |
| XYLENES | BDL | 12 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-79-020 METHOD 624

Lab Number: 5008-7
Sample Designation: M-7
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL | DETECTION LIMIT |
|--|--|-----------------------|
| | (ng/L) | (ug/L) |
| CHLOROMETHANE | RNI | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | BDT. | 10 |
| CHLOROPTHANE | BDT. | 5 |
| RROMOMETHANE | RDI | 10 |
| METHYLENE CHIODIDE | BDL | 5. |
| TRICHIOROFI HOROMETHANE | BDL | 5 ° |
| 1 1-DICHIOROFTUVIENE | RDI | Š |
| 1 1-DICHLOROFTHANE | BDI. | Š |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDT. | 5 |
| CHLOROFORM | BDL | Š |
| 1 2-DICHLOROFTHANE | BDL | 5 5 5 5 5 |
| | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 |
| | BDL | 5 |
| | | . 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | . 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| DAMARILA | DDT | 5 |
| 1 3-cis-nichiopoppopene | BDL | 5 5 5 5 |
| 1 1 0 morcuropoemuand | וחם - | 5 |
| 2-CHIODOFTHYL VINYL PTHER | BDI. | 5 |
| DIRDOMOCHIOPOMETHANE | RDT. | 5 |
| BDOMOFORM | BUL | 5 |
| TETDACHIODOFTHYI FNR | RDT. | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDI. | <u>.</u> 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | 222 | • |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-79-020 METHOD 624

Lab Number: 5008-8
Sample Designation: M-8
Date analyzed: 7-26-85

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | CONCENTRATION (ug/L) BDL 260 BDL BDL BDL BDL | DETECTION LIMIT |
|---|--|-----------------|
| CHIODOMETHANE | (ng/r) | (ug/L) |
| UINVI CUIADIDE | 260 | 14 |
| CUI ODORTUANE | 200 | 14 |
| RECHORDETHANE | PDI | 7 14 |
| MPTUVIENE CHIADIDE | BDL | 7 |
| TRICHLOROFLUOROMETHANE | BDL | 7 |
| | BDL | 7 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | | 7 |
| 1,2-trans-DICHLOROETHYLENE | Trace 610 | 7 |
| CHLOROFORM | | 7 |
| 1,2-DICHLOROETHANE | BDL | |
| | BDL | 7 |
| 1,1,1-TRICHLOROETHANE | BDL | 7 |
| CARBON TETRACHLORIDE | BDL | 7 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 7 |
| 1,2-DICHLOROPROPANE | BDL | 7 |
| 1,3-trans-DICHLOROPROPENE | BDL | 7 |
| TRICHLOROETHYLENE | 30 | 7 |
| BENZENE | BDL | 7 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 7 |
| 1,1,2-TRICHLOROETHANE | BDL | 7 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 7 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 7 |
| BROMOFORM | BDL | 7 |
| TETRACHLOROETHYLENE | Trace | 7 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | , 7 |
| TOLUENE | BDL | 7 |
| CHLOROBENZENE | BDL | 7 |
| ETHYLBENZENE | - BDL | 7 |
| ACETONE | BDL | 35 |
| CARBON DISULFIDE | BDL | 7 |
| THF | BDL | 35 |
| MEK | BDL | 35 |
| MIBK | BDL | 35 |
| STYRENE | BDL | 7 |
| XYLENES | BDL | 7 |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-79-020 METHOD 624 Lab Number: Sample Designation: Date analyzed: 5008-30 Trip Blank 7-26-85

| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | CONCENTRATION | DETECTION LIMIT |
|--|------------------------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | (ug/L) BDL BDL BDL BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| I ZEUTCHTURDPROPINS | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-79-020 METHOD 624

Campbeta

ADDITIONAL INVESTIGATIONS

ATF/DAVIDSON ARCADE FACILITY
COVITCH PROPERTIES
MUMFORD RIVER

PREPARED FOR

ATF/DAVIDSON COMPANY WHITINSVILLE, MASSACHUSETTS

PREPARED BY

CASWELL, EICHLER & HILL, INC. PORTSMOUTH, NEW HAMPSHIRE

JANUARY 1986



P.O. Box 4696 Portsmouth, NH 03801 TEL. (603) 431-4899

January 14, 1986

White Consolidated Industries, Inc. 11770 Berea Road Cleveland, Ohio 44111

Attn: Mr. Dan Marques, P.E.

Re: Our 10-29-85 letter (concerning the 10-24-85 meeting with DEQE - see copy Appendix A)

Dear Dan:

The purpose of this transmittal is to report the laboratory results for items 2, 3, 4 and 5 of the above referenced letter. Each of these items will be addressed below; copies of our 10-29-85 letter and all laboratory data are appended.

#2

No additional organic compounds were found in any of the Arcade or Covitch property samples. See Appendix B for laboratory results.

#3

Concentrations of arsenic, barium and zinc in soil samples taken from MC-7 and MC-10 are characteristic of expected natural background levels. None show evidence of contamination. See Appendix C for laboratory results.

#4

Conductivities generally dropped or remained the same since our 7-18-85 sampling.

No problem levels of arsenic, barium or zinc were detected; M-5 and M-8, however, still exceeded drinking water standards for barium.

Regarding volatile organic compounds, M-3 improved in water quality; M-6 and M-8, however, degraded. In September of 1986, we will graph the results of all quarterly samples to be taken (See 10-29-85 letter for schedule), and analyse water quality trends. We will, however, be transmitting the quarterly results to you as we receive them.

Mr. Dan Marques, P.E. January 14, 1986 Page Two

5

As the laboratory results indicate, (Appendix E), there is a great deal of chromium present in the Mumford River bottom sediments, but virtually none of it appears to be mobile. The greatest concentrations of chromium (2300 ug/g) were found in B-5 and B-7 which are both located well up-river (west) of the ATF/D Arcade facility. The sketch map included with the laboratory data shows the sampling locations and characterizes the nature of the sediments.

Of particular interest, B-5 was noted to exhibit a distinct color change about a foot below the river/sediment interface. The top layer (B-5A) was light brown silty river/bottom sediments, while the lower layer (B-5B) was dark brown silty river bottom sediments. Each layer was sampled separately, and the results show the greatest occurrance of chromium is in the upper portion of the sediments.

The results of the EP Toxicity testing clearly indicates that a retardation agent is affecting the mobility of the chromium. When this much chromium is present, but virtually none of it is extractable, tannery wastes appear to be the likely source. The oils used in the process are repellent to water by nature. This serves to further reduce the mobility of the chromium that is already chealated with the organic tanning wastes. Textile refining and dying wastes can apparently exhibit similar properties. Both types of industries are reported to have been in operation up-river in the past. We have not attempted to verify these reports.

In that ATF/D does not own the river bottom, and because the source of chromium contamination is clearly up-river of the Arcade facility, we recommend that you make the date available to DEQE, and remove yourselves from any further responsibilities in this regard.

This letter and these appended data serve to answer the DEQE's additional questions regarding the Covitch property. The site's soil and ground water appear to be clean, save the Building 9/Raceway area that you are presently rectifying. No further activity on our part is presently anticipated regarding the Covitch property.

The next quarterly sampling of the Arcade wells is scheduled for February 12, 1986. At that time we will be recording pH, conductivity and temperature, and we will be sampling for volatile organic compounds (EPA 624). We recommend that you ask the DEQE to suspend the need for further arsenic, barium and zinc testing. The results to date do not warrent further investigation. Please let us know of their decision.

Mr. Dan Marques, P.E. January 14, 1986 Page Three

Should you have any questions concerning this letter or data, please call.

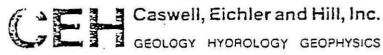
Very truly yours, CASWELL, EICHLER & HILL, INC.

Matthew F. Eichler III

thein

Principal

APPENDIX A



P.O. Box 4696 Portsmouth, NH 03801 TEL. (603) 431-4899.

October 29, 1985.

White Consolidated Industries, Inc. 11770 Berea Road Cleveland, Ohio 44111

Attn: Mr. Dan Marques, P.E.

Re: 10-24-85 Meeting at DEQE Offices, Worcester, MA

Dear Dan:

Per the agreements arrived at during our meeting with DEQE, CEH had been given five action items to pursue. They were:

- Research the availability of a comprehensive hazardous materials handling text.
- 2. Instruct RAI to evaluate the ten highest peaks of organic chemicals present (other than those chemical compounds included in the EPA 624 analysis already completed) in each of the Arcade water samples (M-I through M-8), the three auger probe soil samples (AP-104, S-4; AP-105, S-1; AP-105, S-3) taken from the Building 9/Raceway area, and the Covitch property water samples (MC-1, 2, 3, 7, 10, 11, 12, 13, 14 and 15).
- Select soil samples taken during monitoring well construction from MC-7 and MC-10, and have them tested for barium, arsenic and zinc.
- 4. Determine a quarterly sampling schedule for the Arcade monitoring wells to include volatile organic compounds (EPA 624, and others to be determined by outcome of #2 above), barium, arsenic, zinc, pH, conductivity and temperature.
- Take additional benthic samples from the Mumford River, and conduct an EP Toxicity Test on each sample.

Mr. Dan Marques, P.E. October 29, 1985 Page Two

To date, the following actions have been taken on the above five items:

1. The hazardous materials text:

TITLE: MATERIAL SAFETY DATA SHEETS COLLECTION (2 Vols.)

ORDER: GENIUM PUBLISHERS
1145 CATALYN STREET
SCHENECTADY, NY 12303-1836

- All tasks discussed have been begun. A preliminary progress report should be forthcoming in several weeks.
- The soil samples were delivered to RAI, and the data should be available in several weeks.
- 4. The quarterly sampling schedule is as follows:

1st November 14, 1985 2nd February 12, 1986 3rd May 14, 1986 4th August 13, 1986

5. CEH and RAI will be collecting the benthic samples on November 14,
1985. Laboratory data should be completed several weeks thereafter.

Several other WCI action items were discussed during our meeting. To summarize our notes:

1. Building 9/Raceway area

- a. Prepare a work plan to construct and operate a collection trench/oil separator along the raceway. This plan must include a good reason why WCI is not simply removing all of the contaminated soil and ground water, and transporting it to a secure landfill or other disposal facility.
- b. Obtain a ground water discharge permit for the recycling of water that has been separated from the oil. Forms are available from Susan Corderman.
- c. The work plan should duscuss options for determining the level of oil contamination on the south side of the raceway (monitoring well, deep test pit), and how clean up or containment will be handled should problem levels exist. The work plan should also discuss long term monitoring of the south side of the raceway. The placement of a monitoring well or two should suffice.
- d. The work plan should state that once construction of the trench/separator is completed, the raceway will be once again thoroughly cleaned.

Mr. Dan Marques, P.E. October 29, 1985 Page Three

2. River Bottom

- a. Have WCI legal personnel establish who owns the Mumford River bottom.
- b. If WCI or ATF/D does not own the river bottom, have WCI legal submit a brief to DEQE so stating, and denying responsibility for the presence or clean-up of chromium known to be present in the benthic sediments.
- c. Check meaning of Traverse Line across the Mumford River that is labeled White Consolidated Industries on FIGURE 2, PLATE 1 of the Covitch property report. Also check to see if Mr. Covitch owns any of the river bottom on the other side of the traverse should it be determined that WCI or ATF/D owns the river bottom to that point. Mr. Covitch may be a slightly different case in that he owns the dam which creates Whitin Pond.

Should you have any questions regarding the content of this letter, or should you need any assistance with the Building 9/Raceway work plan, please call.

Very truly yours, CASWELL, EICHLER & HILL, INC.

Matthew F. Eichler III Principal

MFE/SKK

APPENDIX B

Resource Analysts, Incorporated

Box 4778 Humpton, NH 03842 (603) 926-7777

November 21. 1985

Mr. Matt Eichler Caswell, Eichler and Hill P.O. Box 4696 Portsmouth, NH 03801

Dear Matt:

This is to summarize results of our review of GC/MS data from three sets of samples sent to us for volatile organic analysis.

| Lab Number | Field ID | Other compounds observed |
|------------|-----------|--------------------------|
| 5008-1 | M-1 | None |
| 5008-2 | M-2 | None |
| 5008-3 | M-3 | None |
| 5008-4 | M-4 | None |
| 5008-5 | M-5 | None |
| 5008-6 | M-6 | None |
| 5008-7 | M-7 | None |
| 5008-8 | M-8 | None |
| 5006-6 | AP104 S-6 | None |
| 5006-7 | AP105 S-1 | None |
| 5006-9 | AP105 S-3 | None |
| 5070-15 | MC-1 | None |
| 5070-16 | MC-2 | None |
| 5070-17 | MC-3 | None |
| 5070-18 | MC-7 | None |
| 5070-19 | MC-10 | None |
| 5070-20 | MC-11 | None |
| 5070-21 | MC-12 | None |
| 5070-22 | MC-13 | None |
| 5070-23 | MC - 14 | None |
| 5070-24 | MC-15 | None |

Magnetic tapes holding this data were reloaded into our GC/MS data system. The spectral files were used to reconstruct total ion chromatograms for each sample. The chromatograms were examined for peaks whose total ion intensity were greater than or equal to about five percent of that for the nearest internal standard. The internal standards were added to the samples at the 40ug/L level immediately prior to analysis. This would include any compounds whose concentrations were in the 2ug/L range, assuming a similar mass fragmentation behavior to that of the internal standard. Where the peaks proved to be common laboratory contaminants (e.g. methylene chloride, acetone, freon, etc.) results less than two times levels found in laboratory blanks were ignored.

If you have any questions please do not hesitate to call.

Sincerely, RESOURCE ANALYSTS, INC.

Russell D. Foster, Jr. Technical Director

Enclosure

RDF/myv

APPENDIX C

Resource Analysts, Incorporated

Box 4778 Hampton, NH 03842 (603) 926-7777

TO:

Mr. Matt Eichler Caswell, Eichler and Hill P.O. Box 4696 Portsmouth, NH 03301

PO # Verbal

Date Received: 10-30-85 (1115)

Lab Number: 5580

Date Reported: 11-20-85

Please find attached results for Arsenic, Barium, and Zinc.

Date 11/20/85

Technical Director

Field Identification: MC-7 5'-6'6" 1.1.1 S-2 Matrix: Solid

Laboratory Number: 5580-1

| Parameter | Date analyzed | Method | Ref. | Concentration |
|-----------------------------|---------------|-----------|--------------|---------------|
| Arsenic, recoverable (ug/g) | | 3050/304 | Samuel Carlo | 14 |
| Barium, recoverable (ug/g) | 11-15-85 | 3050/303C | 1/2 | 75 |
| Zinc, recoverable (ug/g) | 11-8-85 | 3050/303A | 1/2 | 100 |

Field Identification: MC-7 10'-11'6" 8.21.31 3-3 Matrix: Solid

Laboratory Number: 5580-2

| Parameter | Date analyzed | Method | Ref. | Concentration |
|-----------------------------|---------------|-----------|------|---------------|
| Arsenic, recoverable (ug/g) | 11-14-85 | 3050/304 | 1/2 | 6.2 |
| Barium, recoverable (ug/g) | 11-15-85 | 3050/303C | 1/2 | 63 |
| Zinc, recoverable (ug/g) | 11-8-85 | 3050/303A | 1/2 | 76 |

Field Identification: MC-10 5'-6'6" 5.7.11 S-2 Matrix: Solid

Laboratory Number: 5580-3

| Parameter | Date analyzed | Method | Ref. | Concentration |
|-----------------------------|---------------|-----------|------|---------------|
| Arsenic, recoverable (ug/g) | 11-14-85 | 3050/304 | 1/2 | 6.4 |
| Barium, recoverable (ug/g) | 11-15-85 | 3050/303C | 1/2 | 54 |
| Zinc, recoverable (ug/g) | 11-8-85 | 3050/303A | 1/2 | 67 |

Field Identification: MC-10' Sample(wash) S-3 Matrix: Solid

Laboratory Number: 5580-4

| Parameter | Date analyzed | Method | Ref. | Concentration |
|-----------------------------|---------------|-----------|------|---------------|
| Arsenic, recoverable (ug/g) | 11-14-85 | 3050/304 | 1/2 | 7.6 |
| Barium, recoverable (ug/g) | 11-15-85 | 3050/3030 | 1/2 | 69 |
| Zinc, recoverable (ug/g) | 11-8-85 | 3050/303A | 1/2 | 74 |

Reference 1: EPA SW 846, 2nd Edition

Reference 2: Standard Methods, 16th Edition

APPENDIX D

LOCATION: ATF DAVIDSON, WHITINSVILLE, MA

ENGINEERS: Caswell, Eichler and Hill, Inc.

SAMPLING DATE: 11/13/85

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | | D/TEMP /cm °C | рН |
|----------------|----------------|----------|------|------------------------------------|-----|------------------|------|
| M-1 | 141 | 1.5" | 1455 | 7.17' | 300 | 15 | 5.25 |
| M-2 | 12' | 1.5" | 1520 | 7.74' | 242 | 16 | 8.15 |
| M-3 | 10' | 1.5" | 1710 | 6.48' | 208 | 15 | 7.40 |
| M-4 | 10' | 1.5" | 1650 | 7.35' | 120 | 16 | 6.60 |
| M-5 | 10' | 1.5" | 1540 | 7.02' | 358 | 18 | 6.30 |
| M-6 | 10' | 1.5" | 1620 | 7.08' | 230 | 15 | 6.36 |
| M-7 | 9.51 | 1.5" | 1606 | 6.24 | 229 | 15 | 9.55 |
| M-8 | 9.8' | 1.5" | 1640 | 6.71' | 170 | 15 | 9.13 |

Total depths come from the well plans.

| Resource | Analysts. | Incorporated |
|----------|-----------|--------------|
|----------|-----------|--------------|

Box 4778 Hampton, NH 03842 (603) 926-7777

| TO: | PO # ATF/Davidson |
|---|-------------------------------|
| Mr. Matt Eichler | Date Received: 11-14-85 (1030 |
| Caswell, Eichler, and Hill P.O. Box 4696 | Lab Number: 5665 |
| Portsmouth, NH 03801 | Date Reported: 11-29-85 |

Please find attached results for Volatile Organic Compounds, Arsenic, Barium, and Zinc.

Probert

Date 11.29.85

Technical Director

| CHAIN OF CUSTODY DOCUMENTATION | | | CLIENI | ٠, ٠ | | ge | . 10 | - |
|---|------|-----------------------------|--------------------------|----------------------------|-----------------------|------------|---|----------------|
| | | | ADDRESS - | | | | | |
| PROJECT CONTACT A SAMPLING LOCATION A SAMPLING LOCATION | | <u>.</u> 011: | JOB NAME | / | / | | | |
| FIELD IDENTIFICATION List each container separately | LAB# | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | | FIELD SERVATION : | REHARKS/AN | IALYSIS REQU | ESTED |
| bate M-1 lime | | Osolid Oliquid Oliher | 86/17 mL | O lab | · · · · · · · · · · · | 1/5 1 = | | |
| Date 11 - 1ime | | Osolid Oliquid Other | 86/ mL 6/1/ mL | O field O lab none | | | | |
| Date // - lime | | Olther i | 06/1/ mL | Ofield Slab Dnone | | 7.4- | | |
| Date lime | | Solid Oliquid Other | OG/ mL OG/T/ mL | Ofield Olab Onone | | | | |
| Date Time | | Solid Liquid Other | 86/1/ mt | Ofield Olab Onone | | 9. : P | *************************************** | |
| Date // - // Time | | Osolid Oliquid Other | 86/1/ mL | O field O lab O none | | | | |
| Date : Time · · | | OSolid Cliquid OOther | OG/ mL OG/I/ mL | Ofield Olab Onone | | . 1 | | |
| Date Time | | Solid Liquid Other | QC/ 'wr | O lield O lab O none | | , , | · · · · · · · · · · · · · · · · · · · | |
| Relinquished By: | Date | L /- /- | Received By: | | | | Date | lime |
| Relinquished By: | Date | Time | Received for t | 111 | Le- | morated | Date //// | 11mc /0.501 |

page

Resource Analysts, Incorporated

Resource Analysts, Incorporated

Field Identification: M-1 Laboratory Number: 5665-9 Matrix: Water

| <u>Parameter</u> | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | <0.2 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

Field Identification: M-2 Laboratory Number: 5665-10 Matrix: Water

| Parameter | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | <0.2 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

Field Identification: M-3 Laboratory Number: 5665-11 Matrix: Water

| <u>Parameter</u> | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | <0.2 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | 0.005 |

Field Identification: M-4 Laboratory Number: 5665-12 Matrix: Water

| Parameter | Date analyzed | Method Ref. | Concentration |
|---------------------------|---------------|-------------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C 1 | 0.72 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A 1 | <0.005 |

Reference 1: Standard Methods, 16th Edition

Field Identification: M-5 aboratory Number: 5665-13

Matrix: Water

| Parameter | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 3.1 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | 0.011 |

Field Identification: M-6 Laboratory Number: 5665-14 Matrix: Water

| <u>Parameter</u> | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 0.73 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

ield Identification: M-7 Laboratory Number: 5665-15 Matrix: Water

| Parameter | Date analyzed | Method Ref. | Concentration |
|---------------------------|---------------|-------------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C 1 | <0.2 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A 1 | <0.005 |

Tield Identification: M-8
Laboratory Number: 5665-16

Matrix: Water

| Parameter | Date analyzed | Method | Ref.m | Concentration |
|---------------------------|---------------|--------|-------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 1.4 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

Reference 1: Standard Methods, 16th Edition

Lab Number: Sample Designation: Date analyzed:

5665-1 M-1 11-16-85

| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENTRATION | DETECTION LIMIT |
|--|---------------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | B D L | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 5665-2 Sample Designation: M-2 Date analyzed: 11-16-85

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROETHANE | | DETECTION LIMIT |
|--|--------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| I R I C D L O D O F L U O D O F L I D A N L | BDL | 5 |
| 1, 1-DICHLOROETHYLENE | BDL | 5 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 555555555555555555555555555555555555555 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624 Lab Number: 5665-2 (Laboratory Duplicate)
Sample Designation: M-2

Date analyzed: 11-16-85

| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL BDL BDL BDL | DETECTION LIMIT |
|--|--------------------------------------|-----------------------|
| VOLATILE ORGANICS | CONCENTRATION | (ug/L) |
| CULODOMETUANE | (ug/L) | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE | BDI | 10 |
| CULODORTUANE | זתם | 5 |
| PROMOMETUANE | BDI | 10 |
| MEMULIANE CHIODIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| I I DICHLOROF LOOKOMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| The state of the s | BDL | 5 |
| CHLOROFORM | | 5 5 5 5 5 |
| 1,2-DICHLOROETHANE | BDL BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 5 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 5 |
| -,-,-,- | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THE | BDL | 25 |
| MEK | BDL | . 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| (A) (A) (A) (A) (A) (A) (A) (A) (A) (A) | | |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 5665-3Sample Designation: M-3Date analyzed: 11-16-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|---------------|---------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | 80 _ | 10 |
| CHLOROETHANE | BDL | 5 |
| CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFILIOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | | 5 |
| CHLOROFORM | -BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL . | 5 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL BDL | 5 5 |
| 1,1,2,2-TETRACHLOROETHANE | | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624 Lab Number: Sample Designation:

Date analyzed:

5665-4 M-4

11-16-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|--|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | Trace | 5 |
| CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | Trace | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 5 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 5665-5
Sample Designation: M-5
Date analyzed: 11-16-85

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | CONCENTRATION | DETECTION LIMIT |
|--|------------------------|-----------------------------|
| | (ug/L) BDL BDL BDL BDL | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | . 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1-TRICHLOROETHANE | BDL | 5 |
| The state of the s | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | |
| TETRACHLOROETHYLENE | BDL BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 * ` |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624 Lab Number: Sample Designation: 5665-6 M-6 11-19-85

Date analyzed:

| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL 180 BDL BDL BDL BDL | DETECTION LIMIT (ug/L) |
|--|--|---|
| CHIODOMETHANE | BDI. | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | 180 | 10 |
| CHIODOETHANE | RNI | 5 |
| DDOMOMETUANE | חחם | 10 |
| METUVIENE CUIADIDE | BDL | 5 |
| TRICHLORGE UNDOMETHANE | BDL | 5 |
| 1 HICHLOROF LOUROMETRANE | BDL | 5 5 5 |
| 1,1-DICHLOROEIRILENE | BDL | 5 |
| 1, 1-DICHLOROETHANE 1, 2-trans-DICHLOROETHYLENE | 220 | 5 |
| 1,2-trans-biombonoeiniene | 330 | 5 |
| CHLOROFORM | BDL | 5 5 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | — — — — — — — — — — — — — — — — — — — | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 13 | 5 |
| BENZENE | BDL | 5_ |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| TETRACHLOROETHYLENE | 27 | 5 |
| TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: Sample Designation: Date analyzed: 5665-7 M-7 11-19-85

| VOLATILE ORGANICS | CONCENTRATION | |
|---|---------------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 ` |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | 9 | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | .5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | Trace | 5 |
| BENZENE | Trace | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | W 30 22 |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

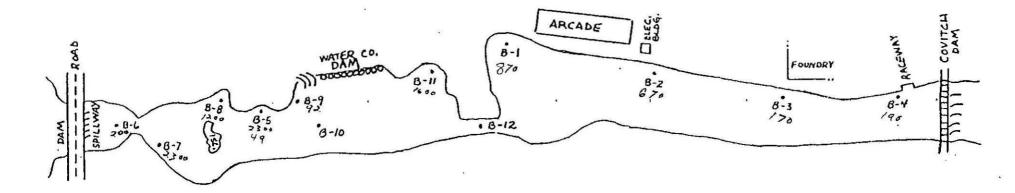
Lab Number: 5665-8
Sample Designation: M-8
Date analyzed: 11-19-85

| CONCENTRATION | DETECTION LIMIT |
|---------------|---|
| CONCENTRATION | DETECTION LIMIT |
| (ug/L) | (ug/L) 50 |
| BUL | 50 |
| 380 | 5 U |
| BUT | 25 |
| RDT | 50 |
| BDL | 25 |
| 1100 | 25 |
| BDL | 25 |
| Trace | 25 |
| BDL | 25 |
| | |
| BDL | 120 |
| BDL | 25 |
| BDL | 120 |
| BDL | 120 |
| BDL | 120 |
| BDL | 25 |
| BDL | 25 |
| | BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

APPENDIX E



LOCATIONS OF MUMFORD RIVER BOTTOM SEDIMENT SAMPLES (11-13-85)

| B-1 | BLACK | SILTY | RIVER | BOTTOM | SEDIME | WTS | |
|------|---------|-------|-------|---------|--------|------------|----------|
| 8-2 | *1 | 11 | 1) | ** | | | |
| B-3 | it. | 17 | 11 | ** | , 1 | | |
| 8-4 | #1 | u | 11 | 11 | 11 | | |
| B-5A | LT. BRN | 11 | * H | 11 | u | | |
| B-5B | DK. BRN | u | 17 | 11 | H | | |
| B-6 | SANDY | RIVER | BOTTO | 4 SEDIN | MENTS | | |
| 8-7 | BROWN | SILTY | RIVER | BOTTOM | SEDIM | ENTS | |
| B-8 | ii | Įŧ | 11 | | 11 | | |
| B-9 | n | 11 | 11 | 11 | II | | . |
| 8-10 | SANDY | RIVER | BOTT | om Sedi | MENTS | (NO SAMPLE | SAVED) |
| B-11 | BADWN | | | | SEDIME | | • |
| B-12 | ROCKY | вотто | M (NO | SAMPLE | OBTAIN | ABLE) | |

NOTE: B-1 THROUGH B-5 TAKEN ON
7-18-85 AND REPORTED IN OUR
OCTUBER 1985 ARCADE FACILITY
REPORT WERE TAKEN AT THE
SAME LOCATIONS AS THOSE
SAMPLES TAKEN ON 11-13-85
SHOWN ABOVE

Resource Analysts, Incorporated

Box 4778 Hampton, NH 03842

(603) 926-7777

TO:

PO # AFT Davidson

Mr. Matt Eichler Caswell, Eichler and Hill

P.O. Box 4696

Postsmouth, NH 03801

Date Received: 12-9-85 (1425)

Lab Number: 5822

Date Reported:

1-10-86

Please find attached results for Chromium.

Tussel I Tole !

Date 1-10-86

Technical Director

Parameter: Chromium, recoverable (ug/g) Matrix: Solid

Method: 3050/303A Reference: 1/2

| Laboratory Number | Field Identification | Concentration |
|-------------------|----------------------|---------------|
| 5822-1 | B-1 | 870 |
| 5822-2 | B-2 | 670 |
| 5822-3 | B-3 | 170 |
| 5822-4 | B-4 | 190 |
| 5822-5 | B-5A | 2300 |
| 5822-6 | B-5B | 49 |
| 5822-7 | B-6 | 200 |
| 5822-8 | B-7 | 2300 |
| 5822-9 | B-8 | 1200 |
| 5822-10 | B-9 | 92 |
| 5822-11 | B-11 | 1600 |

Results expressed on a dry weight basis

Reference 1: EPA SW 846, 2nd Edition

Reference 2: Standard Methods, 16th Edition

Resource Analysts, Incorporated
Box 4778 Hampton, NH 03842

(603) 926-7777

TO:

Mr. Matt Eichler Caswell, Eichler and Hill P.O. Box 4696 Portsmouth, NH 03801 PO # ATF Davidson

Date Received: 11-14-85 (9:30)

Lab Number: 5664

Date Reported: 12-10-85

Please find attached results for EP Toxic Chromium.

Date ______

Technical Director

| | CHAIN O | F CUSTODY | DOCUMENTATION | | | CL IENT | crit | р | age | of <u> </u> | -] |
|----------------|---|-----------|------------------|------------------|---|---------------------------|----------------------------|-----------------------|------------|--------------|-------------|
| | | | 3 5 | | | ADDRESS : | | | | | l |
| | PROJECT CONTACE | Moll | 245 Feb. 9195 CT | ler Whitinson | <u> [[a_ji] </u> | JOB HAM | E/NUMBER CTO <u>R_C</u> | -46- | | <u></u> | |
| List | FIELD IDENTIFICA each container sepa | | | LAB # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- TION | FIELD PRESERVATION | REHARKS/AN | rraziz Beóne | ESTEO |
| 11/13/ Date | β-1 | lime | 1230 | | Solid Oliquid Other | O 6/ mL → G/1/7 (** mL | O field O lab O none | Cool | EP TOS | ·-c/10 | milm |
| Date | B- 2 | Time | JD 48 | | O Solid O Liquid O Other | 86/ 6/ 6/1/ mL | S lab none | | | | |
| Date | B-3_ | lime | 1300 | | O Solld O Solld | OG/T/ mt | S lab none | | | | |
| Date | B- 4 | Time | 1312 | | Scolld Cliquid Quther | OG/T/ mL | O field O lab O none | | | | |
| Date | B-51 | Time | 1/30 | | Solid Oliquid Other | SG/T/ mL | Offela Olab Onone | | <u> </u> | | |
| Date | B-5-B | lime | 1130 | | Osolid Oliquid Other | 86/1 mL | O fleld C lab none | | | | |
| Date | B-6 | 1 i mo | 1055 | | Osolid Oliquid Oother | OG/ ml | Ofield Olab Onone Ollald | | İ | | |
| Date | B.7 | lime | 1107 | | Stiquid Other | OG/ Int | O lab | | | T | |
| Re11 | nquished By: | ne to I | <u> </u> | Date | 4 AM | Received Byt | | | | Date | lime |
| Rell | Inquished By: | | | Date | Time | Reserved For | u ('Va | ull | or • | 0ate 1111 | 130° |
| <u> </u> | | | | 1 | | | Resource | e Analysts, Inc | orporated | | |

| CHAIN OF CUSTODY DOCUMENTATIO | <u> </u> | | CLIENT | PEH | р | age | 01_2_ | - |
|---|----------|-----------------------------------|---|----------------------------|----------------------------|-----------------------|------------|-------|
| | | | ADDRESS : | | ; | | | |
| | | | | | | | | ŝ |
| PROJECT CONTACT Matt Fishler | | ₩ - 1922 | | E/NUMBER | | | | |
| SAMPLING LOCATION ATE TO VILSO | n Whidre | ville, MA | SAMPLE COLLEC | CIOR Soft | un Alb | | | |
| FIELD IDENTIFICATION List each container separately | LAB # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- TION | FIELD PRESERVATION | REMARKS/AKAI | YSIS REQUE | STED |
| 11/13/85 Date B-8 Time 1122 | | Solid Otiquid Other | O G/ mL O G/T/950 mL | O fleld O lab O none | Cool | EPTOX- | Transver | |
| Date B-9 11me 1149 | | O Solid O Liquid O Other | 8 G/1/ mL mL | O field O lab O none | | | | |
| 0ale B-11 11me 1212 | | O Solid O Liquid Other\/ | O P/ | Offeld Offeld Onone | | | | |
| Date B-10 Time | | Osolid Oliquid Oother | O P / m L O G / T / m L O G / T / m L | Ofield Olab Onone | | No Sang Brecholler | 2 lo - S. | 1,000 |
| Qapro B-12 Time | | Solld Cliquid Other | | Ofield Olab Onone | | No Samile - | | |
| Date Time | | O Solid O Liquid . O O ther | OG/ ML | O fleld C lab none | | | * | |
| Date Time | | Osolid Oliquid Other | OP/ mL OG/ mL OG/I/ mL | O field O lab O none | | | | |
| Date Time | | Solid Liquid Other | OG/ ml | O lab | | | | |
| Relinquished By: | Bate | Time AM | Received Byt | (| , | | Date | line |
| Relinquished By: | Date | o Time | Received For | ii (1) | By: (INK) Analysts, Inc. | corporated | Date/14 | 130 |

| CLIENT | | Caswell, Eich | nler, and Hill | | |
|--|---------------|--------------------------------------|-----------------------|--------------|---------------------------------------|
| SAMPLE | DESIGNATION | B-1 | | | |
| | | | D PASTE D POW | | NULAR |
| | | | GENEOUS 🖟 K | | |
| | | _ | A | | |
| | | | | | |
| SAMPLE | MPLE RECEIVED | 11-14-85 | to remove liquid | EXTRACTED 12 | <u>-5-85</u> |
| | | . Intered | to Leniove Induita | * **** | · · · · · · · · · · · · · · · · · · · |
| | | | | | |
| | | | | | |
| % SOLIE | RESIDUE No | ot required | (DRY) | | |
| | | | WEIGHT SOLIDS | 20.80 | |
| | | | | | |
| SULILIS | PREPERATION _ | N/A | | | |
| - | | | | | |
| 07-0- | 4 | | | | |
| | | | | | |
| VOLUME | PRE-EXTRACT F | ILTRATE | 44.0mL | | |
| VOLUME | OF WATER EXTE | PACTED ADDED | TO SOLIDS33 | 3.0mL | |
| | | | | | |
| | TIME | PH | ML 0.5N ACID | РН | |
| | 9:05 | 6.90 | 10,0mL | 3.72 | |
| | 10:05 | 4,25 | i i | 1 | |
| | 1 | | | + = - | Per C |
| | | | | | p- |
| | | | 1.323 | | P -1 |
| | | | | | gen a |
| | | | | |) |
| | | ID ADDED | 10.0mL | | ger i |
| | | ID ADDED | | | per a |
| | | ID ADDED | 10.0mL | | per s |
| | | ID ADDED | 10.0mL XTRACT 73mL | ULT (MG/L) | |
| VOLUME ULS | | ID ADDED | 10.0mL XTRACT 73mL | | |
| VOLUME | | O FILTERED E | 10.0mL XTRACT 73mL | | |
| VOLUME LLS ENIC LUM | WATER ADDED T | METHOD | 10.0mL XTRACT 73mL | ULT (MG/L) | |
| VOLUME LLS ENIC LUM CLUM CHUM | | METHOD 7060 7080 7130 7190 | 10.0mL XTRACT 73mL | | |
| VOLUME LLS LNIC LUM MIUM | WATER ADDED T | METHOD 7060 7080 7130 7190 7420 | 10.0mL XTRACT 73mL | ULT (MG/L) | <u>ANALYS</u> |
| VOLUME LISE LINIC LUM MIUM MIUM CURY | WATER ADDED T | METHOD 7060 7080 7130 7190 | 10.0mL XTRACT 73mL | ULT (MG/L) | <u>ANALYS</u> |
| VOLUME LLS ENIC LUM | WATER ADDED T | METHOD 7060 7080 7130 7190 7420 7470 | 10.0mL XTRACT 73mL | ULT (MG/L) | <u>ANALYS</u> |
| VOLUME LLS LNIC LUM LUM MIUM MIUM LURY LURY | WATER ADDED T | METHOD 7060 7080 7130 7190 7420 7470 | 10.0mL XTRACT 73mL | ULT (MG/L) | ANALYS |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| CLIENT _ | Caswe | ell, Eichler and | Hill | | | |
|---|------------------------|---|-------------------|----------------------|------------------------|----------|
| SAMPLE D | ES I GNATION | B2 | | | | |
| OL | ם מושפו | SLURRY | PASTE | POWDER | | GRANULAR |
| | | | | MOH-HOW | | |
| | | 11 14 05 | | | | 12 1 95 |
| DATE SAM | PLE RECEIVE | ID11-14-85 | | DATE EXTR | ACTED | 12-4-83 |
| SAMPLE P | REPERATION | filtered | to remove li | quid | | |
| | | | | ş. * . | | |
| | | or required | | | | |
| SAMPLE S | I ZE | 68.87g | WEIGHT | SOLIDS | 21_61g | |
| SOLIDS P | REPERATION | N/A | | | | |
| | | | | | | |
| | | | | | | |
| VOLUME O | | - | | 346ml. | | |
| VOLUME O | F WATER EXT | TRACTED ADDED | TO SOLIDS | 346mi. | | |
| | TIME | PH | TO SOLIDS | 346mI. | PH | |
| 12/9 | TIME | PH 6.18 | TO SOLIDS | 346mI. | | |
| 12/9 12/5 | TIME | PH | TO SOLIDS | 346mI. | PH | 1 |
| 12/9 12/5 | TIME 11:30 08:00 | PH 6.18 9.45 | TO SOLIDS | 346mI. | PH | 1 |
| 12/9 12/5 | TIME 11:30 08:00 | PH 6.18 9.45 | TO SOLIDS | 346mI. | PH | 1 |
| 12/9 12/5 12/5 | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 | ML 0.5N AC | 346mI. | PH | 1 |
| 12/9 12/5 12/5 | TIME 11:30 08:00 4.10 | PH 6.18 9.45 | ML 0.5N AC | 346mI. | PH | 1 |
| 12/9 12/5 12/5 | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 | ML 0.5N AC | 346mt. | PH | 1 |
| 12/9 12/5 12/5 | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 | ML 0.5N AC 10.0mL | 346mt. | рн .68 | 1 |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 ACID ADDED TO FILTERED E METHOD 7060 | ML 0.5N AC 10.0mL | 346mI. 3 mL. 76.0mL. | рн .68 | |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 ACID ADDED TO FILTERED E METHOD 7060 7080 | ML 0.5N AC 10.0mL | 346mI. 3 mL. 76.0mL. | рн .68 | |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 ACID ADDED TO FILTERED E METHOD 7060 7080 7130 | ML 0.5N AC 10.0mL | 346mi. 3 mL. 76.0ml. | рн .68 мс/L) | ANALYST |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH | ML 0.5N AC 10.0mL | 346mi. 3 mL. 76.0ml. | рн .68 мс/L) | |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 ACID ADDED TO FILTERED E METHOD 7060 7080 7130 | ML 0.5N AC 10.0mL | 346mi. 3 mL. 76.0ml. | рн .68 мс/L) | ANALYST |
| 12/9 12/5 12/5 12/5 TOT VOLUME W | TIME 11:30 08:00 4.10 | PH 6.18 9.45 4.51 ACID ADDED TO FILTERED E METHOD 7060 7080 7130 7190 7420 | ML 0.5N AC 10.0mL | 346mi. 3 mL. 76.0ml. | рн .68 мс/L) | ANALYST |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NU | MBER | _3 | | | | |
|------------|--|--------------------------------------|-----------------|-----------------|-------------|-------------|
| CLIENT | n | Caswell, Eic | hler and Hill | -81 | | |
| SAMPLE | DESIGNATION | B-3 | | | | |
| | LIQUID | S SLURRY | PASTE | POWDER | R 🛮 GR | NULAR |
| | | ☐ HON | IOGENEOUS | ₩ NON-I | HOMOGENEOUS | |
| | | | | | | |
| DATE C | AMBLE DECELL | σp 11 14 | o <i>e</i> | DATE 5 | CTACTED 1 | 1 4 05 |
| SAMPLE | PREPERATION | ED 11-14- filtere | ed to remove li | ouid | CIRACIED | (-4-8) |
| | _ | | A TAIL OF THE | 4444 | | |
| | | | | - 0 | | |
| | | 4 | | | | |
| * SOL 11 | n perint - | at annuisad | 1 | | | |
| | | ot required | 753 - 2 | | 11 | |
| | 3, | 75.71mL | | 10000 | 38.14g | |
| SOLIDS | PREPERATION | N/A | | | | |
| | | | | | | |
| | **** | | - | | | **** |
| VOLUME | OF MATER EX | CTRACTED ADDED | TO SOLIDS | 010 <u>.</u> 0m | | |
| | TIME | PH | ML 0,5N AC | :10 | РН | |
| 12/4 | | 7.07 | 10.0m | L | 4.15 | |
| 12/5 | | 4.66 | | | | |
| 12/5 | 04.12 | 4.70 | | | | |
| | | - | | | | |
| | * | - | | | | |
| | | - 1 | | | | |
| T | OTAL VOLUME | ACID ADDED | 10.0 | | | |
| VOLUME | WATER ADDED | TO FILTERED | EXTRACT | 143.0ml | | |
| | | | | | | |
| VI C | | METHO | מפ | DECI II | r (MG/L) | ANALYS" |
| <u>uls</u> | | | <u></u> | MISOL | (MG/L) | MIMEIS |
| ENIC | | | | | | 7 |
| | | 7060 | | | | |
| UM - | | 7080 | | | | |
| MUIN | | 7080 7130 | | | | |
| MUIM | | 7080 7130 7190 | | | <0.01 | JEM |
| MUIM | | 7080 7130 7190 7420 7470 | ••••• | | <0.01 | JEM |
| MUIN | | 7080 7130 7190 7420 7470 | ••••• | | | JEM |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| CLIENT Caswell, Eichler and Hill | |
|--|-----------------------|
| | |
| SAMPLE DESIGNATION B-4 | |
| ☐ LIQUID ☐ SLURRY ☐ PASTE ☐ POWDER ☐ GRAN | ULAR |
| ☐ HOMOGENEOUS ☐ NON-HOMOGENEOUS | |
| The second of th | |
| DATE SAMPLE RECEIVED 11-14-85 DATE EXTRACTED 1 | 2-5-85 |
| SAMPLE PREPERATION filtered to remove liquid | |
| | |
| | |
| % SOLID RESIDUE not required (DRY) | |
| | |
| SAMPLE SIZE 66.5g WEIGHT SOLIDS 40.0g | |
| SOLIDS PREPERATION N/A | |
| | |
| | |
| VOLUME PRE-EXTRACT FILTRATE 25mL VOLUME OF WATER EXTRACTED ADDED TO SOLIDS 640mL | |
| | |
| TIME PH ML 0.5N ACID PH | |
| | , , . |
| TIME PH ML 0.5N ACID PH | P · |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 10:07 4.28 | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 10:07 4.28 TOTAL VOLUME ACID ADDED 10.0mL | |
| TIME PH ML 0.5N ACID PH 10:10 6.23 10.0mL 4.07 10:07 4.28 TOTAL VOLUME ACID ADDED 10.0mL VOLUME WATER ADDED TO FILTERED EXTRACT 150.0mL | |
| TIME PH ML 0.5N ACID PH 10:10 | . |
| TIME PH ML 0.5N ACID PH 10:10 | + · |
| TIME PH ML 0.5N ACID PH 10:10 | ANALYST |
| TIME PH ML 0.5N ACID PH 10:10 | + · |
| Time | <u>analyst</u> JEM |
| TIME PH ML 0.5N ACID PH 10:10 | <u>analyst</u> JEM |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NU | MBER | | | | | | | |
|---|---|----------|--|---|--------------------------|--------------------------|----------|---------------|
| CLIENT | Casw | ell, Eic | chler and i | Hill | | | | |
| SAMPLE | DESIGNATI | ON | B-5A | | | | | |
| | LIQUID | X s | LURRY | PASTE | ☐ POV | VDER | GRAN | ULAR |
| | | | □ ном | OGENEOUS | X N | ON-HOMOGEN | EOUS | |
| DATE SA | AMPLE RECE | IVED _ | 11-14-8 | 35 d to remove | DATE | EXTRACTE | D | 2-5-85 |
| SAMPLE | PREPERATI | ON | filtered | d to remove | liquid | | | |
| | | | | What is to | | | | |
| | | | | (D | | | | |
| SAMPLE | SIZE | 76.2 | 2g | WEIG | HT SOLIDS | 27 | .6g | |
| SOLIDS | PREPERATI | ON | N/A | · · · · · · · · · · · · · · · · · · · | 3 | | | |
| | | | | 45.5m | e severe se | 10.00 | | |
| | OF WATER | EXTRACT | TED ADDED | | 442.0 | mL | | |
| | OF WATER TIME 11:20 | EXTRACT | TED ADDED | TO SOLIDS | 442.0 | mL | | |
| | TIME 11:20 10:17 | EXTRACT | PH 6.02 4.12 | TO SOLIDS | 442.0 ACID mL | mL PH | . — ⊐ | |
| | OF WATER TIME 11:20 | EXTRACT | PH 6.02 | TO SOLIDS ML 0.5N | 442,0 | mL PH 3.61 | . — ⊐ | |
| | TIME 11:20 10:17 | EXTRACT | PH 6.02 4.12 | ML 0.5N | 442,0 | mL PH 3.61 | . — ⊐ | |
| | TIME 11:20 10:17 | EXTRACT | PH 6.02 4.12 | ML 0.5N | 442,0 | mL PH 3.61 | . — ⊐ | |
| VOLUME | TIME 11:20 10:17 03:00 | EXTRAC | PH 6.02 4.12 4.14 ADDED | TO SOLIDS ML 0.5N 10.0 | 442,0 | mL 3.61 | . — ⊐ | |
| VOLUME | TIME 11:20 10:17 03:00 | EXTRAC | PH 6.02 4.12 4.14 ADDED | TO SOLIDS ML 0.5N 10.0 | 442,0 | mL 3.61 | . — ⊐ | |
| VOLUME | TIME 11:20 10:17 03:00 | EXTRAC | PH 6.02 4.12 4.14 ADDED FILTERED E | 10.0m | 442.0 mL L 100.0mL | mL 3.61 | | • |
| VOLUME TO VOLUME | TIME 11:20 10:17 03:00 OTAL VOLUM WATER ADD | EXTRACT | PH 6.02 4.12 4.14 ADDED FILTERED E METHOR 7060 7080 | 10.0m | 442.0 ML 100.0mL | PH 3.61 SULT (MG/L | | ANALYS |
| VOLUME VOLUME ALS ENIC | TIME 11:20 10:17 03:00 OTAL VOLUM WATER ADD | EXTRACT | ## 6.02 4.12 4.14 ADDED | 10.0m | 442.0 ACID ML 100.0mL | mL | | ANALYS |
| VOLUME VOLUME | TIME 11:20 10:17 03:00 OTAL VOLUM WATER ADD | EXTRACT | ## 6.02 4.12 4.14 ADDED | 10.0m | 442.0 ACID ML 100.0mL | mL | | ANALYS |
| VOLUME VOLUME ALS ENIC IUM MIUM OMIUM | TIME 11:20 10:17 03:00 OTAL VOLUM WATER ADD | EXTRACT | ## 6.02 4.12 4.14 ADDED | TO SOLIDS ML 0.5N 10.0 10.0m EXTRACT | 442.0 ACID ML 100.0mL | ML 3.61 SULT (MG/L <0.01 | | <u>analys</u> |
| VOLUME VOLUME ALS ENIC IUM MIUM | TIME 11:20 10:17 03:00 OTAL VOLUM WATER ADD | EXTRACT | ## 6.02 4.12 4.14 ADDED FILTERED E METHOD 7060 7080 71307190 7420 | 10.0m | 442.0 ACID ML 100.0mL | ML 3.61 SULT (MG/L <0.01 | | <u>analys</u> |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NUA | ABER | 5664-6 | | | | | | |
|--|-------------------|-----------|---|---------------------------------------|---------------------|----------------------------|------|---------------------------------------|
| CLIENT | C | aswell, E | Eichler an | d Hill | | | | |
| SAMPLE | DES I GNAT I | ON | B-5B | · | | - | | |
| | LIQUID | O stu | JRRY | X PASTE | ☐ PO | WDER | GR | ANULAR |
| | | | □ номо | GENEOUS | N Ø | ON-HOMOGEN | EOUS | |
| DATE SI | VDIE DECE | נועלט | 11_14_85 | | DAT | E EYTDACTE | n | 12-5-85 |
| SAMPLE | PREPERATI | ом | would n | ot filter | | E EXTRACTE | | 12-3-03 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | · · · · · · · · · · · · · · · · · · · | | | | |
| | | 27 | 20 N 10 N 10 N | (pr | | | | |
| SAMPLE | SIZE | 40.0g | | WE I G | T SOLID | s <u>40.</u> | 0g | - |
| SOLIDS | PREPERATI | ON N | /A | | | | | |
| | | | | | | | | **** |
| | | | | | | | | · · · · · · · · · · · · · · · · · · · |
| | | | | | | | 2 | |
| F25 A 488 F25 | 7 | | | | | | | |
| | | | | 0 | | | | |
| | | | | | | | | AND 1000 |
| | | | | | | | | |
| | OF WATER | EXTRACTE | ED ADDED | TO SOLIDS (| 540mL_ | #1200gb | | AND 1000 |
| | OF WATER | EXTRACTE | ED ADDED | | 540mL_ | РН | | AND 1000 |
| | OF WATER TIME | EXTRACTE | PH 6.08 | TO SOLIDS (| 540mL | #1200gb | | AND 1990 |
| | OF WATER | EXTRACTE | ED ADDED | TO SOLIDS | 540mL | РН | | AND 1000 |
| | OF WATER TIME | EXTRACTE | PH 6.08 | TO SOLIDS | 540mL | РН | | |
| | OF WATER TIME | EXTRACTE | PH 6.08 | TO SOLIDS | 540mL | РН | | |
| | OF WATER TIME | EXTRACTE | PH 6.08 | TO SOLIDS | 540mL | РН | | |
| | OF WATER TIME | EXTRACTE | PH 6.08 | TO SOLIDS | 540mL | РН | | |
| VOLUME | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 | ML 0.5N A | 640mL NCIB mL | РН 4.12 | | |
| VOLUME | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 | ML 0.5N / | S40mL ACIB nL | РН 4.12 | | |
| VOLUME | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 | ML 0.5N / | 640mL NCIB mL | РН 4.12 | | |
| VOLUME VOLUME | TIME 10:30 10:08 | EXTRACTE | PH 6.08 4.19 ADDED | 10.0n | nL 150.0m | РН 4.12 | | Te |
| VOLUME | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 ADDED ILTERED E | 10.0n | nL 150.0m | РН 4.12 | | |
| VOLUME VOLUME | TIME 10:30 10:08 | EXTRACTE | ADDED ADDED ILTERED E METHOD 7060 | 10.0n | nL 150.0m | РН 4.12 | | 7 |
| VOLUME VOLUME VLS ENIC | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 ADDED ILTERED E | 10.0n | nL 150.0m | РН 4.12 | | 7 |
| VOLUME VOLUME LLS ENIC | TIME 10:30 10:08 | EXTRACTE | 6.08 4.19 ADDED LITERED E METHOD 7060 7080 7130 | 10.0n | nL 150.0m | PH 4.12 | | ANALYST |
| VOLUME VOLUME LIS ENIC IUM MIUM | TIME 10:30 10:08 | EXTRACTE | ## 6.08 4.19 ADDED | 10.0n | nL 150.0m | 4.12 4.12 5ULT (MG/L | | 7 |
| VOLUME VOLUME NIC UM MIUM | TIME 10:30 10:08 | EXTRACTE | ## 6.08 4.19 ADDED | ML 0.5N A | nL 150.0m | 4.12 4.12 5ULT (MG/L | | ANALYST |
| VOLUME VOLUME LIS ENIC IUM MIUM | TIME 10:30 10:08 | EXTRACTE | ## 6.08 4.19 ADDED | ML 0.5N A | nL 150.0m | 4.12 4.12 5ULT (MG/L | | ANALYST |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NUM | BER 5664- | 7 | 54 | | | |
|--|---------------------------------------|--|--------------------------|------------|------------------|-----------------|
| CLIENT | Caswell | , Eichler and | Hill | | | |
| SAMPLE | DESIGNATION | B-6 | | | | |
| | LIQUID S | SLURRY | PASTE | POWDER | GRANULAR | |
| | 3-0-1-2 (A-002-9-VIIII (A-02-0) | *C STRUCTURE TO ST | | ₩ non-home | | |
| | | | | | | |
| DATE SA | MPIF PECELVE | D 11 | 11.95 | DATE EXTR | ACTED12- | 5 85 |
| SAMPLE | PREPERATION | filt | ered to remo | ve liquid | 12- | <u> </u> |
| | | | | | | |
| () | | | • • | | , 10 | |
| | | · · · · · · · · · | | | | |
| % SOLID | RESIDUE | not requi | red (DR | r) | • | |
| SAMPLE | SIZE | 72.34g | WE I GHT | r solids | 41.5g | |
| SOLIDS | PREPERATION | N/A | | | | |
| | | | | | | |
| | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | * | | |
| VOLUME | PRE-EXTRACT | FILTRATE | 265 | n.I | | |
| | | | | | | - |
| VOLUME | OF WATER EXT | RACTED ADDED | TO SOLIDS _ | 664mL | | |
| | TIUE | BU | | :10 | DU | |
| 2 2 2 | | | | | | |
| 12/4 12/5 | 02:50 08:00 | 6.19 | 10.0m | | 55 | • |
| 12/5 | 04:15 | 4.11 | | | | |
| 12/3 | V-13 | 7.11 | 1 | | | |
| | | | | | | * |
| | | | | | | |
| | | | | - | | |
| | | | 10.0m | 156.0mL | | |
| VOLUME | WATER ADDED | IO FILIERED | EXTRACT | 130.0InL | | |
| | | | | | | |
| ALS | | METHO | <u>D</u> | RESULT (M | IG/L) A | NALYST |
| ENIC | | 70 | 060 | | | |
| LUM | | | 080 | | | |
| | | /1 | 000 | | | |
| MIÚM | | | 130 | | **************** | • • • • • • • • |
| MIUM MUIM | | 7: | 130 | | <0.01 | JEM |
| OM I UM | | 7: | 130 190 120 | | <0.01 | JEM |
| OMIUM D CURY | | 7; 7; 74 | 130 190 120 170 | | | JEM |
| OM I UM | | 7: 7: 74 74 | 130 190 120 | | | JEM. |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NUM | ABER | | | | | |
|---|---|-----------------------------|--|---------------------------------------|---------------------|----------|
| CLIENT | Caswell | , Eichler | and Hill | | | |
| SAMPLE | DESIGNATION | B-7 | | | · | |
| | LIQUID [2 | SLURRY | ☐ PASTE | Powe | ER [] | GRANULAR |
| | | | HOMOGENEOUS | D NOI | N-HOMOGENEC | ous |
| DATE SA | MPLE RECEIVE | D | 11-14-85 | DATE | EXTRACTED | 12-5-8 |
| SAMPLE | PREPERATION | | filtered to re | emove liquid | | 12-5-8 |
| | | | | | | |
| | | | equired (| | | |
| | | | g WEI | | | 3.00 |
| SOLIDS | PREPERATION | 19, | /A | 700 | | |
| | | | | | · | |
| | | | | | | |
| | | | | | | |
| VOLUME | | | NO NETWORK | 31 Al | | |
| | PRE-EXTRACT | FILTRATE | | 82.0mL | | |
| | PRE-EXTRACT OF WATER EXT | FILTRATE | | 82.0mL 45 | | |
| | PRE-EXTRACT OF WATER EXT TIME 12:15 | FILTRATE RACTED AD PH 6.12 | ML 0.5N | 82.0mL 45 | 1.0mL | |
| | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 | PH 6.12 4.20 | ML 0.5N | 82.0mL 45 | 1.0mL PH | |
| | PRE-EXTRACT OF WATER EXT TIME 12:15 | PH 6.12 4.20 | ML 0.5N | 82.0mL 45 ACID | 1.0mL PH 3.60 | |
| | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 | PH 6.12 4.20 | ML 0.5N | 82.0mL 45 ACID mL | 1.0mL PH 3.60 | |
| | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 | PH 6.12 4.20 | ML 0.5N | 82.0mL 45 ACID mL | 1.0mL PH 3.60 | |
| VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 | PH 6.12 4.20 4.20 | ML 0.5N | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 | ML 0.5N | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 | ML 0.5N 10.0n 10.0mL | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 CID ADDED | ML 0.5N 10.00 10.0mL ED EXTRACT | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 CID ADDED | ML 0.5N 10.0s 10.0mL THOD 7060 | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME VOLUME LS | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 CID ADDED | 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL | 82.0mL 45 MCID mL | 1.0mL PH 3.60 | |
| VOLUME VOLUME | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 TO FILTER | 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL | 82.0mL 45 MCID mL 112.0mL | 1.0mL PH 3.60 | ANALY |
| VOLUME VOLUME LS NIC UM | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 TO FILTER | 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL 10.0mL | 82.0mL 45 MCID mL 112.0mL | 1.0mL PH 3.60 | |
| VOLUME VOLUME LS NIC UM MIUM | PRE-EXTRACT OF WATER EXT TIME 12:15 10:15 03:00 OTAL VOLUME A | PH 6.12 4.20 4.20 TO FILTER | 10.0mL THOD 7060 7080 7130 7190 | 82.0mL 45 MCID mL 112.0mL | 1.0mL PH 3.60 | ANALY |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NU | MBER5664-9 | | | | | |
|--------------------------------------|--|--|---------------------------------------|-----------------------------|------------------|---------------|
| CLIENT | Caswell, | Eichler and H | ill | | | |
| SAMPLE | DESIGNATION | B-8 | | | | |
| | מושפום 🖾 | SLURRY [|] PASTE [] | POWDER | ☐ GR | ANULAR |
| | | □ номос | SENEOUS) | Омон-иом | GENEOUS | |
| | | | | | | |
| DATE S | AMPLE RECEIVED | 11-1 | 4-85 | DATE EXTRA | CTED | 12-5-85 |
| SAMPLE | PREPERATION | filte | ered to remove | liquid | | |
| | , | | | | | - 18 00-2-11 |
| % SOLII | D RESIDUE | not requir | ed (pay) | | | |
| | | | WEIGHT S | OLIDS | 34 | l. 9σ |
| | | | | | | 0 |
| | | IN/ A | | * **** | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| VOLUME | PRE-EXTRACT F | ILTRATE | 98mL | | | 12 |
| | | | | | | |
| | | | 98mL | | | |
| | OF WATER EXT | RACTED ADDED T | o solids | 558.0mL | | |
| | OF WATER EXT | RACTED ADDED T | ML 0.5N ACID | 558.0mL | PH | |
| | OF WATER EXTE | RACTED ADDED T | o solids | 558.0mL | | |
| | TIME 07:50 | PH 6.37 | ML 0.5N ACID | 558.0mL | рн .56 | |
| | TIME 07:50 | PH 6.37 | ML 0.5N ACID | 558.0mL | рн .56 | |
| | TIME 07:50 | PH 6.37 | ML 0.5N ACID | 558.0mL | рн .56 | |
| | TIME 07:50 | PH 6.37 | ML 0.5N ACID | 558.0mL | рн .56 | |
| VOLUME | 71ME 07:50 10:10 | PH 6.37 4.27 | ML 0.5N ACID 10.0mL | 558.0mL | рн .56 | |
| YOLUME | TIME 07:50 10:10 | PH 6.37 | ML 0.5N ACID 10.0mL | 558.0mL | рн .56 | |
| YOLUME | TIME 07:50 10:10 | PH 6.37 4.27 CID ADDED | ML 0.5N ACID 10.0mL | 558.0mL | рн .56 | |
| YOLUME YOLUME | TIME 07:50 10:10 | PH 6.37 4.27 CID ADDED TO FILTERED EX | ML 0.5N ACID 10.0mL | 558.0mL 3 - | рн .56 | |
| YOLUME VOLUME | TIME 07:50 10:10 | PH 6.37 4.27 CID ADDED TO FILTERED EX | ML 0.5N ACID 10.0mL | 558.0mL | рн .56 | |
| VOLUME VOLUME | TIME 07:50 10:10 | PH 6.37 4.27 CID ADDED TO FILTERED EX METHOD 7060 | ML 0.5N ACID 10.0mL | 558.0mL 3 - | рн .56 | |
| VOLUME VOLUME LS | TIME 07:50 10:10 | PH 6.37 4.27 CID ADDED TO FILTERED EX METHOD 7060 7080 | ML 0.5N ACID 10.0mL 10.0mL TRACT 130 | D.OmL | PH .56 - | |
| VOLUME VOLUME LS INIC UM | TIME 07:50 10:10 DTAL VOLUME ACTIVATER ADDED TO | PH 6.37 4.27 CID ADDED TO FILTERED EX METHOD 7060 7080 7130 | ML 0.5N ACID 10.0mL 10.0mL TRACT 130 | D.OmL | PH .56 | <u>analys</u> |
| VOLUME VOLUME LS NIC UM | TIME 07:50 10:10 DTAL VOLUME ACTIVATER ADDED TO | PH 6.37 | ML 0.5N ACID 10.0mL 10.0mL TRACT 130 | D.OmL | PH .56 | ANALYS |
| VOLUME VOLUME LS NIC UM | TIME 07:50 10:10 DTAL VOLUME ACT WATER ADDED TO | ## 6.37 4.27 | ML 0.5N ACID 10.0mL 10.0mL TRACT 130 | 3.0mL 0.0mL RESULT (M | 56 | analys Jem |
| VOLUME VOLUME | TIME 07:50 10:10 DTAL VOLUME ACT WATER ADDED TO | PH 6.37 | ML 0.5N ACID 10.0mL 10.0mL TRACT 130 | 3.0mL 0.0mL RESULT (M | 56 | analys: |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| 7060 UM 7080 TUM 7130 MIUM 7190 <0.01 JEM | LAB NUM | BER 5664- | 10 | | | | |
|---|----------------|---------------|-----------------|-------------------|-------------|---------------|----------|
| LIQUID SILURRY PASTE POWDER GRANULAR HOMOGENEOUS Q NON-HOMOGENEOUS | CLIENT . | Caswe | ll, Eichler and | d Hill | | | |
| HOMOGENEOUS NON-HOMOGENEOUS | SAMPLE I | DESIGNATION _ | B-9 | | | | _ |
| DATE SAMPLE RECEIVED 11-14-85 DATE EXTRACTED 12-5-85 SAMPLE PREPERATION filtered to remove liquid ** SOLID RESIDUE not required (DAY) SAMPLE SIZE 82.5g WEIGHT SOLIDS 38.1g SOLIDS PREPERATION N/A VOLUME PRE-EXTRACT FILTRATE 41mL VOLUME OF WATER EXTRACTED ADDED TO SOLIDS 610mL TIME PH ML 0.5N ACID PH 02:25 6.44 10.0mL 3.72 | | Liquid 🗵 | SLURRY | PASTE | ☐ POWD | ER 🗆 | FRANULAR |
| # SOLID RESIDUE | | | □ номо | GENEOUS | MON Ø | - HOMOGENEOUS | 5 |
| ** SOLID RESIDUE | DATE SAM | MPLE RECEIVED | 11-1 | 4-85 | DATE | EXTRACTED _ | 12-5-85 |
| SAMPLE SIZE | SAMPLE F | PREPERATION _ | filt | ered to rem | iove liquid | | |
| SAMPLE SIZE | - | | ***** | | | | |
| VOLUME PRE-EXTRACT FILTRATE | | | | | | | |
| VOLUME PRE-EXTRACT FILTRATE 41mL VOLUME OF WATER EXTRACTED ADDED TO SOLIDS 610mL TIME PH ML 0.5N ACID PH 02:25 6.44 10.0mL 3.72 10:15 4.09 03:00 4.08 VOLUME WATER ADDED 10.0mL VOLUME WATER ADDED 51LTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MILM 7130 MILM 7130 MILM 7190 <0.01 JEM | | | | | | | |
| VOLUME PRE-EXTRACT FILTRATE 41mL VOLUME OF WATER EXTRACTED ADDED TO SOLIDS 610mL TIME PH 02:25 6.44 10.0mL 3.72 10:15 4.09 03:00 4.08 VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 <0.01 | SOLIDS F | PREPERATION _ | N/A | | | | |
| VOLUME PRE-EXTRACT FILTRATE 41mL VOLUME OF WATER EXTRACTED ADDED TO SOLIDS 610mL TIME PH 02:25 6.44 10.0mL 3.72 10:15 4.09 03:00 4.08 VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 <0.01 | (- | | | | | - | |
| TIME | | | | | | | |
| TIME | | | • | | | | |
| 02:25 | VOLUME O | OF WATER EXTR | ACTED ADDED | TO SOLIDS _ | 610r | n <u>L</u> | |
| 10:15 | | TIME | PH | ML 0.5N A | CID | РН | |
| 10:15 | | 02:25 | 6.44 | 10.0r | nL | 3.72 | |
| TOTAL VOLUME ACID ADDED 10.0mL VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MIUM 7190 <0.01 JEM | | | | | | | |
| VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MIUM 7190 <0.01 JEM | - | 03:00 | 4.08 | | | | |
| VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MIUM 7190 <0.01 JEM | ļ | | | | | | |
| VOLUME WATER ADDED TO FILTERED EXTRACT 142.0mL LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MIUM 7190 <0.01 JEM | L | | | | | | |
| LS METHOD RESULT (MG/L) ANALYS NIC 7060 UM 7080 IUM 7130 MIUM 7190 <0.01 JEM | TOT | AL VOLUME AC | ID ADDED | 10.0mL | 142 Oml | | |
| 7060 UM 7080 TUM 7130 MTUM 7190 <0.01 JEM | VOLUME 1 | MIER ADDED I | O FICIERED E | CIRACI | 142.001 | | |
| UM 7080 TUM 7130 MTUM 7.190 <0.01 JEM | LS | | METHOD | | RESU | LT (MG/L) | ANALYS |
| TUM 7130 MTUM 7.190 <0.01 JEM | NIC | | | | | | |
| 7130 7190 <0.01 JEM | UM | | 7080 | | | | |
| | | | | | | < 0.01 | IEM |
| 7.6.70 |) | | 7420 | • - • • • • • • • | | | |
| 7.470 | URY | | | | | | |
| 7740 ER 7760 | NIUM | | | | | | ¥. |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

| LAB NU | MBER 5664 | | | | | |
|---|--|--|---|-----------------|---------------------|-----------------------|
| CLIENT | Casw | veil. Eichler a | and Hill | | | |
| SAMPLE | DESIGNATIO | N B-11 | <u>-</u> | | | |
| | LIQUID | 3 SLURRY | PASTE | POWDE | ₹ 🛛 | GRANULAR |
| | | □ но | OMOGENECUS | NON E | HOMOGENEOI. | ıs |
| | | 1 | 1 14 95 | | | 12 5 05 |
| SAMPLE | PREPERATION | и | filtered to ren | nove liquid | ETRACTES _ | 12-5-85 |
| | | | | | | |
| % SOLII | D RESIDUE _ | not_req | uired (pr | RY) | | |
| SAMPLE | SIZE | 172.0g | WE I CH | HT SOLIDS _ | 26.9g | |
| SOLIDS | PREPERATION | N N/A | | | | |
| | | | | | | |
| | | · | | | | |
| | | T FILTRATE | 141.0mL | | | |
| | OF WATER ED | T FILTRATE | 141.0mL | 430 |).0mL | |
| | OF WATER ED | T FILTRATE XTRACTED ADDE | 141.0mL | 430 |).0mL | |
| | OF WATER ED | T FILTRATE XTRACTED ADDE PH 7.55 4.09 | 141.0mL TO SOLIDS _ | 430 | <u>).0mL</u> РН | |
| | of water E | T FILTRATE XTRACTED ADDE | 141.0mL D TO SOLIDS _ ML 0.5N A | 430 | 9.0mL PH 3.61 | |
| | OF WATER ED | T FILTRATE XTRACTED ADDE PH 7.55 4.09 | 141.0mL TO SOLIDS ML 0.5N A | 430 | 9.0mL PH 3.61 | |
| | OF WATER ED | T FILTRATE XTRACTED ADDE PH 7.55 4.09 | 141.0mL TO SOLIDS ML 0.5N A | 430 | 9.0mL PH 3.61 | |
| VOLUNE | 03:55 10:14 03:00 | T FILTRATE XTRACTED ADDE PH 7.55 4.09 4.12 | 141.0mL D TO SOLIDS _ ML 0.5N A | 430 | 9.0mL PH 3.61 | |
| VOLUNE | 03:55 10:14 03:00 | T FILTRATE XTRACTED ADDE PH 7.55 4.09 4.12 | 141.0mL TO SOLIDS ML 0.5N A 10.0mL | 430 | 3.61 | |
| VOLUNE | 03:55 10:14 03:00 | T FILTRATE XTRACTED ADDE PH 7.55 4.09 4.12 | 141.0mL D TO SOLIDS _ ML 0.5N A | 430 | 3.61 | |
| VOLUNE | 03:55 10:14 03:00 | T FILTRATE XTRACTED ADDE PH 7.55 4.09 4.12 | 141.0mL D TO SOLIDS _ ML 0.5N A | 430 ACID | 3.61 | |
| VOLUME VOLUME LS | 03:55 10:14 03:00 | PH 7.55 4.09 4.12 ACID ADDED METH | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT DOD | 430 ACID | 9.0mL PH 3.61 | |
| VOLUME VOLUME LS | 03:55 10:14 03:00 | T FILTRATE TRACTED ADDE PH | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT | 98.0mL | 9H 3.61 | |
| VOLUME VOLUME | TIME 03:55 10:14 03:00 OTAL VOLUME WATER ED | PH 7.55 4.09 4.12 ACID ADDED METH 7060 7080 | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT | 98.0mL | PH 3.61 (MG/L) | ANALYST |
| VOLUME VOLUME VOLUME MIC UM | TIME 03:55 10:14 03:00 OTAL VOLUME WATER ED | PH 7.55 4.09 4.12 ACID ADDED | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT | 98.0mL | PH 3.61 (MG/L) | ANALYST |
| VOLUME VOLUME LS NIC UM | OF WATER ED TIME 03:55 10:14 03:00 DTAL VOLUME WATER ADDED | PH 7.55 4.09 4.12 ACID ADDED METH 7060 7080 7130 7120 7420 | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT | 98.0mL | PH 3.61 (MG/L) | ANALYST |
| VOLUME VOLUME LS INIC UM | TIME 03:55 10:14 03:00 OTAL VOLUME WATER ED | PH 7.55 4.09 4.12 ACID ADDED | 141.0mL D TO SOLIDS ML 0.5N A 10.0mL 10.0mL EXTRACT | 98.0mL | PH 3.61 (MG/L) | <u>analyst</u> JEM |

ALL CONCENTRATIONS DETERMINED BY THE METHOD OF STANDARD ADDITIONS.

ATF/DAVIDSON ARCADE FACILITY SAMPLING REPORT

Prepared for

ATF/Davidson Company Whitinsville, Massachusetts

Prepared by

Caswell, Eichler & Hill, Inc. Portsmouth, New Hampshire

October 1986

P.O. Box 4696 Portsmouth, NH 03801 TEL. (603) 431-4899

October 9, 1986

White Consolidated Industries P.O. Box 182056 Columbus, OH 43218

Attn: Mr. Dan Marques

Re: ATF/Davidson Arcade Facility Sampling Report

Dear Dan:

The purpose of this letter is to transmit the combined results of the quarterly sampling at the Arcade Facility during the period 7-18-85 through 8-6-86.

In general, water quality beneath the site either remained about the same, or improved slightly since the first sampling round was conducted 7-18-85. M-8 remains the well exhibiting the highest level of water quality degradation at the site.

The results of all five sampling rounds are reduced and shown in Appendix A. Water quality results for those wells (M-3, M-4, M-6, M-8) that exhibited a consistent presence of any particular volatile organic compound are graphically displayed in Appendix B. Additionally, complete laboratory reports are contained in Appendix C.

Upon review of these data by yourselves and DEQE, please let us know when you would like to schedule a meeting to discuss the results. Should you have any questions or further needs, please call.

Very truly yours,

Caswell, Eichler & Hill, Inc.

Matthew F. Eichler III

Principal

MFE/amk

APPENDIX A
TABULATED DATA

| | Benzene | Vinyl Chloride | 1,2 - Trans - Dichloroethylene | Trichloroethylene | Tetrachloro- ethylene | 1,1,1, Trichloro- ethañe | Chloroform | Toluene | Chloroethane | 1,1, Dichloro- ethane |
|---------------------------------------|----------------------------|-------------------|-----------------------------------|-------------------|--|-----------------------------|-------------------------------|---------|--------------|--------------------------|
| <u>H-1</u> | | | | | | | | | | |
| | | | | . 20 | | | | | | |
| 1. 7-18-85 2. 11-13-85 | | | | | | | 5 20 A MARKATA | | | |
| 2. 11-13-85 3 2-10-84 | Trace | | | | | | | Trace | | |
| 3. 2-10-86 4. 5-13-86 5. 8-6-86 | Trace | | | Trace | | | | | | |
| 5. 8-6-86 | | 300230222 | Del 1800, Marie de Calles | | | | | | | |
| M-2 1. " 2. " 3. " 4. " 5. " | Trace | | | | | | | | | |
| H-3 | | } | 1 | 1 | 1 | T i | i | 1 | | 1 |
| 1. u | | 190 | 250 | 10 | | | | | | |
| 2. " 3. " | 2000-08-30-00-70-08-00-08- | 80 | 20 | | | | | _ | | |
| 3. " | | 19 29 | 9 11 | Trace | | | | | | - |
| 4. " 5. " | | 12 | 31 | Trace | | Trace | | | | |
| J. | | - | | | 1 | | l. , | | | |
| <u>M-4</u> | | | | 1 | | | | | | |
| 1. " 2. " | , | | | | | | | | Trace | Trace |
| 3. " | | | | 1 | 1 | | Acceptance (IAC) (Acceptance) | | 25 | |
| 4. | | | | | | | | | 25 | i |
| 5. " | | | | 1 . | <u> </u> | | l | 1 | 12 | 1 ! |

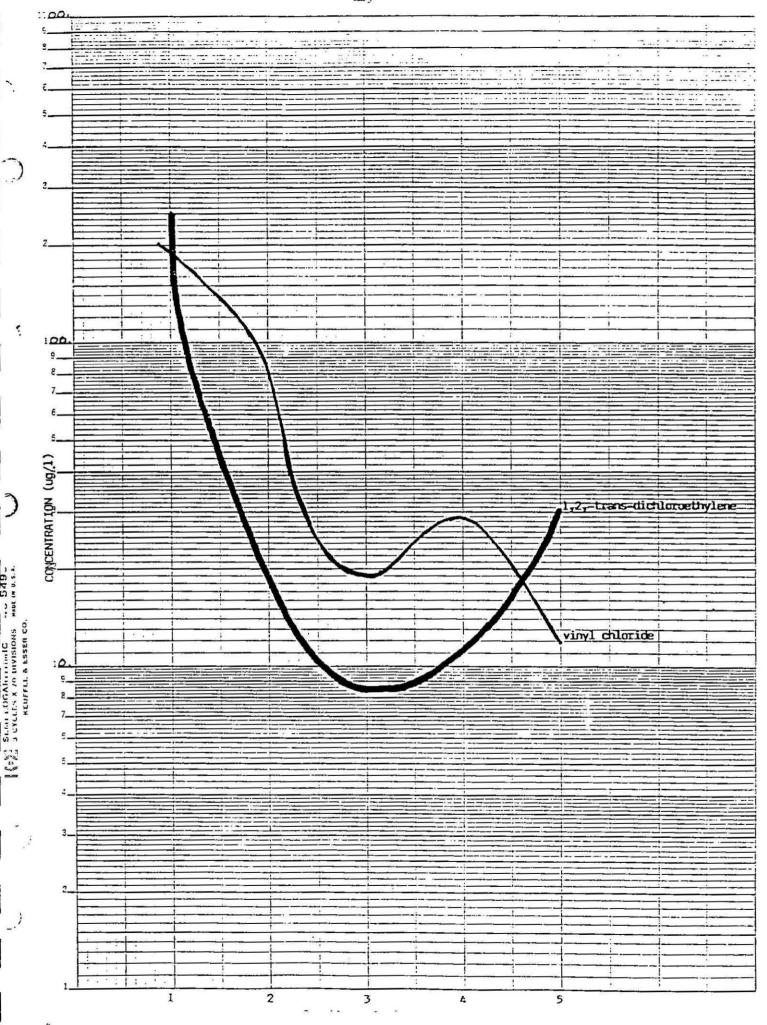
. .

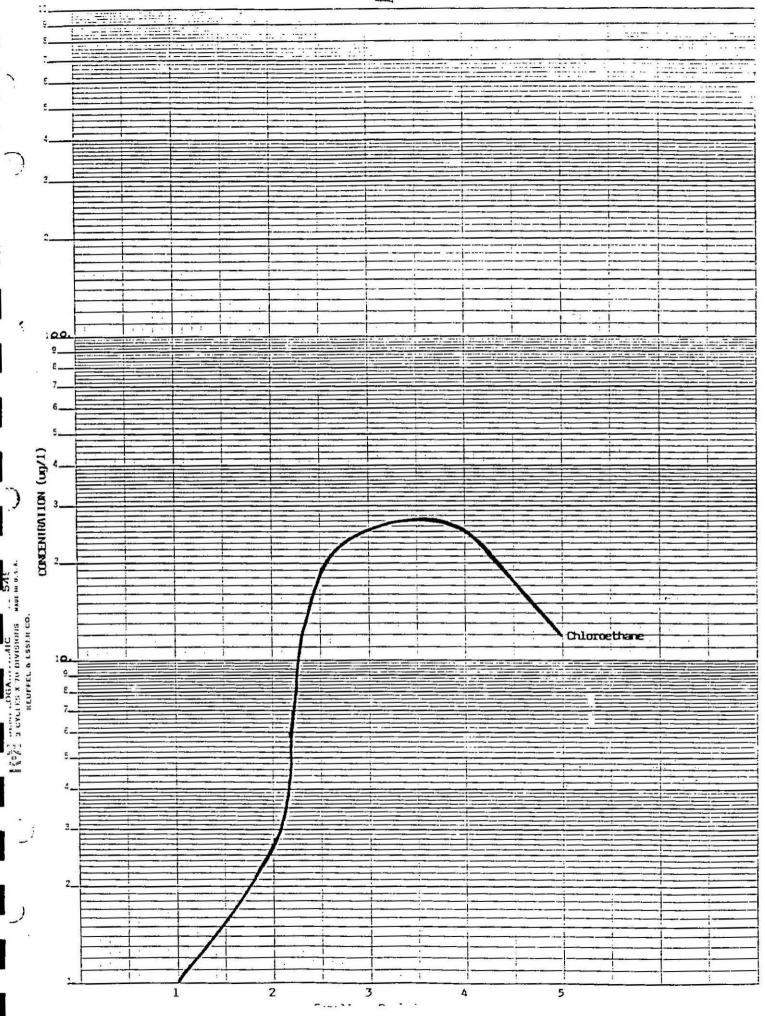
...

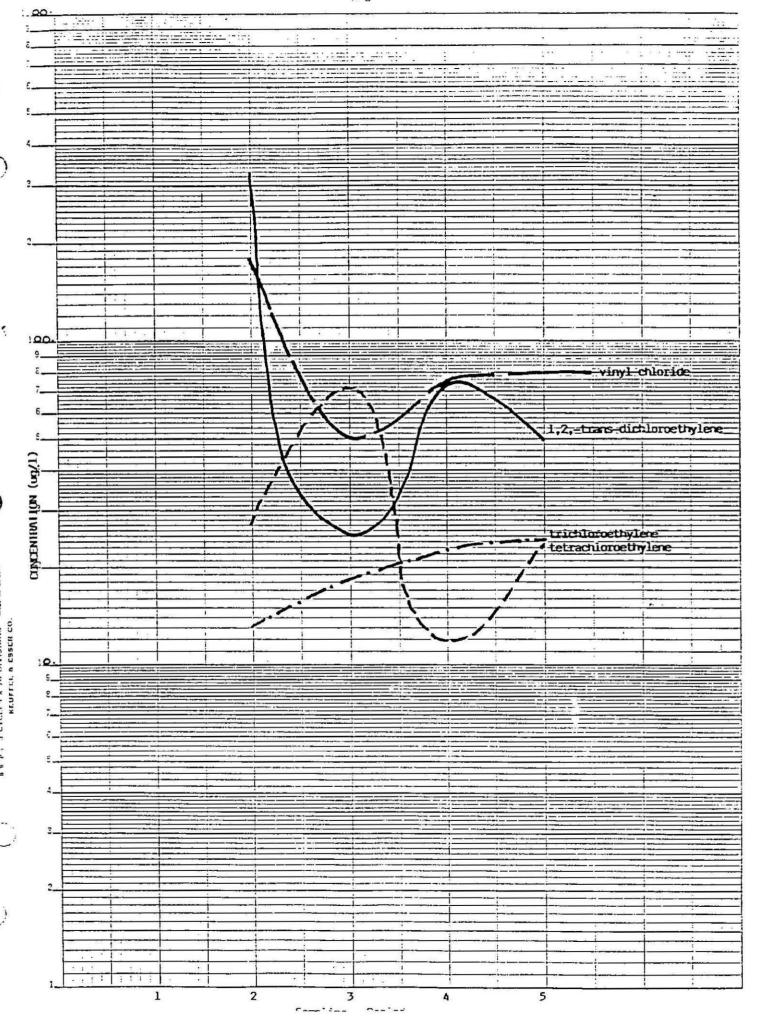
| | Benzene | Vinyl Chloride | 1,2 - Trans - Dichloroethylene | Trichloroethylene | Tetrachloro- ethylene | 1,1,1, Trichloro- ethane | Chloroform | Toluene | Chloroethane | 1,1, Dichloro- ethane |
|--|-------------|-------------------|-----------------------------------|-------------------|--------------------------|-----------------------------|------------------|---------|---------------|--------------------------|
| <u>H-5</u> | | | | | | | | | | |
| 1. 7-18-85 2. 11-13-85 3. 2-10-86 4. 5-13-86 5. 8-6-86 | | | | | | | | | | |
| <u>M-6</u> | Ť | Ī | î | , | ī | 1 | ì | I | Ī | 1 1 |
| 1. " | | | 15 | 30 | 950 | | | | | |
| 2. " | | 180 | 330 | 13 | 27 | | | | | |
| 3. " | | Trace | Trace | Trace | 73 | Trace | | | | |
| 4. " | | 76 | 75 | | 12 | | | | | |
| 5. " | | 80 | 50 | Trace | Trace | Trace | | | | |
| 1. " 2. " 3. " 4. " 5. " | Trace | | | Trace | | | Trace | 6 | | 9 |
| <u>M-8</u> | Î | ř | T. | • | ı | ī | 1 | i | ì | T s |
| 1. " | | 260 | 610 | 30 | Trace | | - | - | | Trace |
| 2. H | | 380 | 1100 | Trace | | | | | - | |
| 3. " | | Trace | 380 | Trace | Trace | Trace | | | | |
| 4. " | | 600 | 1600 | 26 | | | | | | - |
| 5. " | | 220 | 720 | 15 | 2-3-3 | | - - | | - | |
| J400 65 | | + | | | | | | | | |

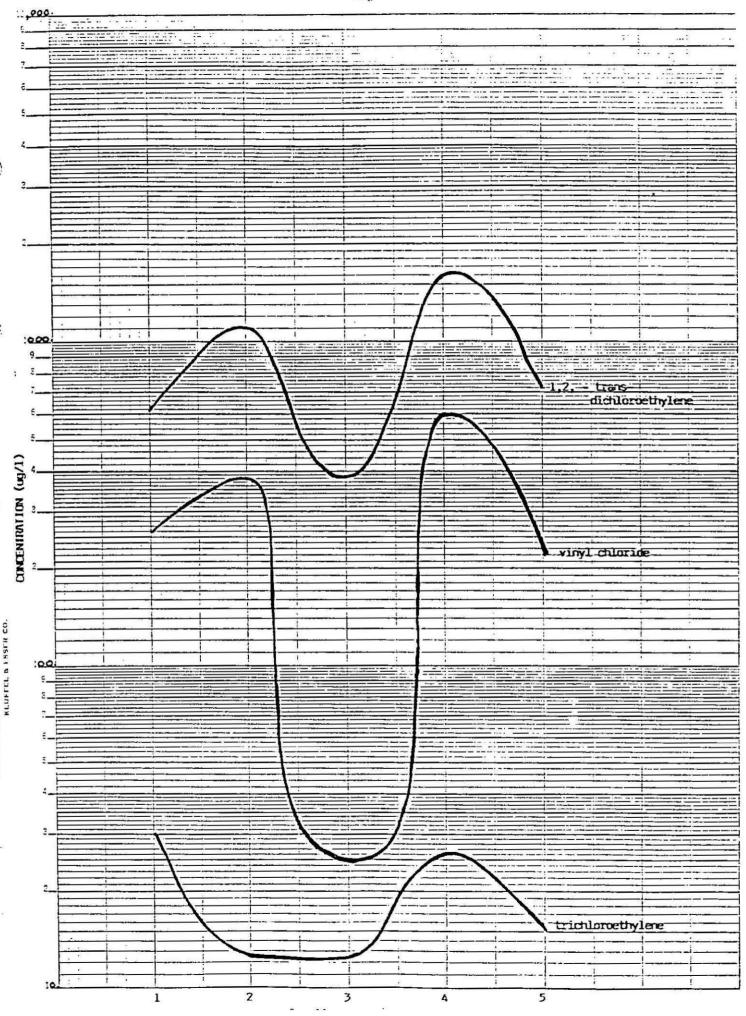
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APPENDIX B
GRAPHED DATA









APPENDIX C LABORATORY DATA

| _ | | | | |
|-------------------------|--------|---------|--------|---------|
| Rosnin | re 1 v | ministe | Incor | porated |
| $n\omega \omega \omega$ | 11. 33 | imisu, | IIICOI | pormeu |

Box 4778 Hampion, NH 03842

(603) 926-7777

TO:

PO # ATF Davidson

Date Received: 7-19-85 (8:10)

Mr. Matt Eichler

Caswell Fiehler & Hill

Lab Number: 5008

Mr. Matt Eichler Caswell, Eichler & Hill P.O. Box 4696 Portsmouth, NH 03801

Date Reported: 8-13-85

Please find attached results for Volatile Organic Compounds, Total Cyanide, Oil and Grease, Barium, and Priority Pollutant Metals.

Technical Director

LOCATION: ATF Davidson, Whitinsville, MA

ENGINEERS: Caswell, Eichler, and Hill

SAMPLING DATE: 7/18/85

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | COND. umhos/c | /TEMP. m °C | pН |
|----------------|----------------|----------|------|------------------------------------|------------------|----------------|------|
| M-1 | 14' | 1.5" | 0950 | 8.31' | 425 | 20.0 | 7.25 |
| M-2 | 12' | 1.5" | 1000 | 8.75' | 300 | 19.5 | 8.50 |
| M-3 | 10' - | 1.5" | 1010 | 6.901 | 260 | 21.5 | 6.35 |
| M-4 | 10' | 1.5" | 1015 | 7.68' | 225 | 24.0 | 8.20 |
| M-5 | 10' | 1.5" | 1017 | 7.351 | 365 | 24.0 | 7.30 |
| M-6 | 10' | 1.5" | 1018 | 7.47' | 235 | 25.0 | 6.85 |
| M-7 | 9.51 | 1.5" | 1020 | 6.81' | 325 | 24.0 | 9.80 |
| M-8 | 9.81 | 1.5" | 1023 | 7.13' | 165 | 22.0 | 7.30 |
| | | | | | | | |

Total depths come from the well plans.

| | | | | | ٠. | | . it' | ē. | ,., | | _ | ď | | | |
|-----------------------|---------|---------|---------|---------|---------------------------|------------|---------|---------|--------------|---|------------|------------------|---------|-----------|---------|
| roj. No. | | ect Nam | Desi | den | | No. | | 1/ | 300 | 1.1 | | 9.// | | | • , |
| amplers: | (Signat | -t-ft | Mind | Sil | a | of con- | / | ST. | // | 1 | 1 | | Rem | arks | * |
| ta. No. | Date | Time | Comp. | Station | n Location | tainers | Sing | 1 | | 13 | 100 | / + / | local() | 7/0D | 1/1m |
| M- | 7/11/85 | 14 15 | | | | 3 | / | 1 | | 27.50 | | 12.31 | , | 14' | 0.35 |
| m 2 | / \ | 143,2 | J. | | | | / | v | ! | 10. | 0.9 | 8,75 | | 12' | Jones |
| M. 3 | | 1570 | / | | | | v | ب | 12 | 3 | 5.8 | 6.90 | 1 | 10 1 | 10/1. |
| M. Y | | 13,40 | J | | | | · | ~ | U | 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0,6 | 7.60 | , | 10' | 100 |
| | | 1335 | | | | 1 | V | · _/ | Ų, | 2.※ | <u>J.7</u> | 7,30 | 11 | /o′ | 1017 |
| 1 h - 6 | | 1145 | U | | | | Ų | U. | V | Del. | 0.7 | 2.47 | ' / | , ' | ste |
| wi- 7 | | 1110 | IJ | , | | · | l | v | <i>y</i> | 33.5 | 2.7 | 6.81 | 19 | 1,5 | 101 |
| M- 7 | | 1055 | 1 | | | | | V | <i>)</i> | \$. \$. \$. 4 . \$. 4 | 07 | 7.13 | 1 0 | 7.8 | / 323 |
| M-3 | | 1510 | V | | | | | | | | | 01 | 17. GY | · takagnu | |
| Relinqui (Signatur | | | Date 7/ | //)< | Received by (Signature) | M-1 | | | qu11 ntu1 | | Ь | Date. | /Time | Rece | ived by |
| Relinqui (Signatu | | : | Date | e/Time | Réceived by (Signature | M | 490.000 | | quia | | by |): Date | /Time | | ived by |
| Relinqui (Signatu | C | | Date | e/Time | Received for (Signature) | /) | tory | ьу | | | | lime 1000 | Remar | ks | |

Caswell, Eichler, & Hill Laboratory Number 5008 8-13-85

Field Identification: M-1

Matrix: Liquid

| | Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|---|------------|-------------------------------|---------------|--------|------|---------------|
| | 5008-9 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| | 5008-17 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| | 5008-17 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| | 5008-17 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | < 0.2 |
| | 5008-17 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| | 5008-17 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| | 5008-17 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| | 5008-17 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| | 5008-17 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| | 5008-17 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| ĺ | 5008-17 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| | 5008-17 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| | 5008-17 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| | 5008-17 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| | 5008-17 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.028 |

Field Identification:

M-2

Matrix: Liquid

| | Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|---|------------|-------------------------------|---------------|--------|------|---------------|
| | 5008-10 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| | 5008-18 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| | 5008-18 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| | 5008-18 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | <0.2 |
| | 5008-18 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| | 5008-18 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| | 5008-18 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| | 5008-18 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| | 5008-18 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| | 5008-18 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| | 5008-18 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2. | < 0.03 |
| ľ | 5008-18 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| ı | 5008-18 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| | 5008-18 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| | 5008-18 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.045 |
| ı | | | | | | |

- Reference: 1. EPA 600/4-79-020
 2. Standard Methods, 16th Edition
 3. EPA SW 846, 2nd Edition

Field Identification: M-3Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-11 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-19 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-19 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-19 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 0.34 |
| 5008-19 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | - <0.002 |
| 5008-19 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-19 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-19 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-19 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-19 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-19 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-19 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-19 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-19 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-19 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.022 |
| 5008-29 | Oil and Grease (mg/L) | 7-25-85 | 413.2 | 1 | <5 |

Field Identification: Matrix: Liquid M-4

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-12 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-20 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-20 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-20 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 1.0 |
| 5008-20 | Beryllium, recoverable (mg/L) | 725-85 | 303C | 2 | < 0.002 |
| 5008-20 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-20 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-20 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.005 |
| 5008-20 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | <0.0006 |
| 5008-20 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-20 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-20 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-20 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-20 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-20 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.021 |
| | | | | | |

Reference: 1. EPA 600/4-79-020

Standard Methods, 16th Edition
 EPA SW 846, 2nd Edition

Field Identification: M-5 Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-13 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-21 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-21 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-21 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 2.9 |
| 5008-21 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-21 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-21 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-21 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-21 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-21 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-21 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-21 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-21 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5 5008-21 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-21 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.016 |

Field Identification: Matrix: Liquid M-6

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-14 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-22 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-22 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-22 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 0.91 |
| 5008-22 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | <0.002 |
| 5008-22 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.003 |
| 5008-22 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.005 |
| 5008-22 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.005 |
| 5008-22 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | <0.0006 |
| 5008-22 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | <0.02 |
| 5008-22 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | <0.03 |
| 5008-22 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-22 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | <0.01 |
| 5008-22 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.6 |
| 5008-22 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.020 |

Reference: 1. EPA 600/4-79-020
2. Standard Methods, 16th Edition
3. EPA SW 846, 2nd Edition

Field Identification: M-7 Matrix: Liquid

| Lab Number | Parameter | Date analyzed | Method | Ref. | Concentration |
|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-15 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | <0.01 |
| 5008-23 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-23 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-23 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | .<0.2 |
| 5008-23 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-23 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.003 |
| 5008-23 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-23 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| 5008-23 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-23 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 5008-23 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-23 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | <0.8 |
| 5008-23 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-23 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.016 |

Field Identification: M-8 Matrix: Liquid

| 5008-24 Nickel, recoverable (mg/L) 8-9-85 303A 2 <0.02 | Lab Number | mber Parameter | Date analyzed | Method | Ref. | Concentration |
|--|------------|-------------------------------|---------------|--------|------|---------------|
| 5008-24 Arsenic, recoverable (mg/L) 7-25-85 304 2 <0.01 | 5008-16 | Total Cyanide (mg/L) | 8-2-85 | 335.2 | 1 | 0.03 |
| 5008-24 Barium, recoverable (mg/L) 8-8-85 303A 2 1.2 5008-24 Beryllium, recoverable (mg/L) 7-25-85 303C 2 <0.002 | 5008-24 | Silver, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-24 Beryllium, recoverable (mg/L) 7-25-85 303C 2 <0.002 | 5008-24 | Arsenic, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-24 Cadmium, recoverable (mg/L) 8-7-85 303A 2 ~<0.003 | 5008-24 | Barium, recoverable (mg/L) | 8-8-85 | 303A | 2 | 1.2 |
| 5008-24 Chromium, recoverable (mg/L) 8-9-85 303A 2 <0.005 | 5008-24 | Beryllium, recoverable (mg/L) | 7-25-85 | 303C | 2 | < 0.002 |
| 5008-24 Copper, recoverable (mg/L) 8-7-85 303A 2 <0.005 | 5008-24 | Cadmium, recoverable (mg/L) | 8-7-85 | 303A | 2 | ···<0.003 |
| 5008-24 Mercury, recoverable (mg/L) 7-23-85 7641 3 <0.0006 5008-24 Nickel, recoverable (mg/L) 8-9-85 303A 2 <0.02 | 5008-24 | Chromium, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.005 |
| 5008-24 Nickel, recoverable (mg/L) 8-9-85 303A 2 <0.02 | 5008-24 | Copper, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.005 |
| | 5008-24 | Mercury, recoverable (mg/L) | 7-23-85 | 7641 | 3 | < 0.0006 |
| 5008-24 Lead recoverable (mg/L) 8-7-85 3034 2 <0.03 | 5008-24 | Nickel, recoverable (mg/L) | 8-9-85 | 303A | 2 | < 0.02 |
| 3000-2; Lead, recordable (mg/L) 0-7-03 303A 2 \0.03 | 5008-24 | Lead, recoverable (mg/L) | 8-7-85 | 303A | 2 | < 0.03 |
| 5008-24 Antimony, recoverable (mg/L) 8-12-85 303A 2 <0.8 | 5008-24 | Antimony, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.8 |
| 5008-24 Selenium, recoverable (mg/L) 7-25-85 304 2 <0.01 | 5008-24 | Selenium, recoverable (mg/L) | 7-25-85 | 304 | 2 | < 0.01 |
| 5008-24 Thallium, recoverable (mg/L) 8-12-85 303A 2 <0.6 | 5008-24 | Thallium, recoverable (mg/L) | 8-12-85 | 303A | 2 | < 0.6 |
| 5008-24 Zinc, recoverable (mg/L) 8-7-85 303A 2 0.010 | 5008-24 | Zinc, recoverable (mg/L) | 8-7-85 | 303A | 2 | 0.010 |

Reference:

EPA 600/4-79-020
 Standard Methods, 16th Edition

3. EPA SW 846, 2nd Edition

Lab Number: 5008-1
Sample Designation: M-1
Date analyzed: 7-24-85

| VOLATILE ORGANICS | VOLATILE ORGANICS | | |
|--|--|--|-----|
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BDL CHLOROETHANE BBDL BROMOMETHANE BDL BROMOMETHANE BDL BROMOMETHANE BDL BDL BROMOMETHANE BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | VOLKTILE ORGANICS | | |
| VINIL CHLORIDE CHLOROETHANE BDL CHLOROETHANE BBOL BROMOMETHANE BBOL BROMOMETHANE BBOL METHYLENE CHLORIDE BBOL STRICHLOROFLUOROMETHANE BBOL STRICHLOROFLUOROMETHANE BBOL STRICHLOROETHANE BBOL STRICHL | CUIODOMETUANE | A SAME TO THE PARTY OF THE PART | |
| BROMOMETHANE BDL 10 METHYLENE CHLORIDE BDL 5 TRICHLOROFLUOROMETHANE BDL 5 1,1-DICHLOROETHYLENE BDL 5 1,2-trans-DICHLOROETHYLENE BDL 5 1,2-trans-DICHLOROETHANE BDL 5 1,2-trans-DICHLOROETHANE BDL 5 1,1,1-TRICHLOROETHANE BDL 5 CARBON TETRACHLORIDE BDL 5 BROMODICHLOROMETHANE BDL 5 1,2-DICHLOROFANE BDL 5 BROMODICHLOROMETHANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 TRICHLOROETHYLENE BDL 5 BENZENB BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 TITLEL BDL 5 TITLEL BDL 5 TITLEL BDL 5 TOLUENE BDL 5 CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 TOLUENE BDL 5 CHLOROBENZENE BDL 5 TOLUENE BDL 5 CHLOROBENZENE BDL 55 THE CARBON DISULFIDE BDL 55 THE CARBON DISULFIDE BDL 55 THE CARBON DISULFIDE BDL 55 TH | | Control of the Contro | |
| TRICHLOROFLUCROMETHANE | CHIODOEMUANE | | 10 |
| TRICHLOROFLUCROMETHANE | B DOMONE THANK | | 5 |
| TRICHLOROFLUCROMETHANE | MEMBULENE ON ORTH | BDL | 10 |
| THICHLOROF LUCHOMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE BDL 5 CHLOROFORM BDL 5 1,2-DICHLOROETHANE BDL 5 L,2-DICHLOROETHANE BDL 5 CARBON TETRACHLORIDE BROMODICHLOROMETHANE BDL 5 BROMODICHLOROPROPANE BDL 5 TRICHLOROETHYLENE BDL 5 BENZENE BDL 5 BENZENE BDL 5 BL 5 L,2-TRICHLOROETHANE BDL 5 L,1,2-TRICHLOROETHANE BDL 5 L,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 DIBROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 BOL 5 L,1,2-TETRACHLOROETHANE BDL 5 TOLUENE CHLOROETHYLENE BDL 5 CHLOROBENZENE BDL 5 CARBON DISULFIDE BDL 5 CARBON DISULFIDE BDL 5 CARBON DISULFIDE BDL 5 KYLENES BDL 5 SYYLENES | METHYLENE CHLORIDE | BDL | |
| 1,1-DICHLOROETHANE | TRICHIORORIDADOMENTANE | BDL | 5 |
| 1,2-DICHLOROETHANE | 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,2-DICHLOROETHANE | 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-DICHLOROETHANE | 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1, 1 - TRICHLOROETHANE | CHLOROFORM | BDL | 5 |
| CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 ENZENE BDL 5 1,1,2-TRICHLOROPROPENE BDL 5 1,1,2-TRICHLOROPROPENE BDL 5 DIBROMOCHLOROMETHANE BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BEROMOFORM BDL 5 BOL 5 BOL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 STYRENE BDL 5 STYRENE STYRENE BDL 5 STYRENE STRENE STR | | BDL | 5 |
| BROMODICHLOROMETHANE BROMODICHLOROPROPANE BROMODICHLOROPROPANE BDL 5 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BENZENE BDL 5 1,1,2-TRICHLOROPROPENE BDL 5 BL 5 1,1,2-TRICHLOROETHANE BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 STYRENE BDL 25 MEK BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE STYRENE BDL 5 STYRENE | | BDL | |
| REMONDTENDORMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 BOL 6 | CARBON TETRACHLORIDE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL 5 BENZENE BENZENE BDL 5 1,1,2-TRICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE BDL 5 THF THR THR THR THR THR THR THR THR THR THR | BROMODICHLOROMETHANE | BDL | 5 |
| TRICHLOROETHYLENE BDL 5 BENZENE BDL 5 BENZENE BDL 5 1,3-cis-DICHLOROPROPENE BDL 5 1,1,2-TRICHLOROETHANE BDL 5 2-CHLOROETHYL VINYL ETHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE BDL 5 CARBON DISULFIDE BDL 5 MEK BDL 25 MIBK BDL 25 STYRENE BDL 25 STYRENE BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES BDL 5 KYLENES SBDL 5 KYL | 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 DIBROMOCHLOROMETHANE BBCL 5 BROMOFORM BCL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BCL 5 CHLOROBENZENE BCL 5 ETHYLBENZENE BCL 6 CARBON DISULFIDE THF BCL CARBON DISULFIDE THF BCL MEK MIBK STYRENE BCL STYRENE BC | 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 DIBROMOCHLOROMETHANE BBCL 5 BROMOFORM BCL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BCL 5 CHLOROBENZENE BCL 5 ETHYLBENZENE BCL 6 CARBON DISULFIDE THF BCL CARBON DISULFIDE THF BCL MEK MIBK STYRENE BCL STYRENE BC | . 1805 1807 1808 18 1808 18 1808 1808 1808 180 | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 DIBROMOCHLOROMETHANE BBCL 5 BROMOFORM BCL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BCL 5 CHLOROBENZENE BCL 5 ETHYLBENZENE BCL 6 CARBON DISULFIDE THF BCL CARBON DISULFIDE THF BCL MEK MIBK STYRENE BCL STYRENE BC | | BDL | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER BDL 5 DIBROMOCHLOROMETHANE BBCL 5 BROMOFORM BCL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BCL 5 CHLOROBENZENE BCL 5 ETHYLBENZENE BCL 6 CARBON DISULFIDE THF BCL CARBON DISULFIDE THF BCL MEK MIBK STYRENE BCL STYRENE BC | 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BDL 5 BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE THF MEK MIBK STYRENE KYLENES BDL 5 BDL | 1,1,2-TRICHLOROETHANE | BDL | 5 |
| BIBROMOCHLOROMETHANE BROMOFORM BDL 5 TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL MEK MIBK STYRENE XYLENES BDL 5 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 6 BDL 7 | 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| TOLUENE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL BDL 5 | DIBROMOCHLOROMETHANE | BDL | 5 |
| TOLUENE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL BDL 5 | BROMOFORM | BDL | |
| TOLUENE TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL BDL 5 | TETRACHLOROETHYLENE | BDL | |
| TOLUENE CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 5 MEK MEK MIBK BDL STYRENE XYLENES BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 | 1,1,2,2-TETRACHLOROETHANE | | |
| CHLOROBENZENE ETHYLBENZENE BDL 5 ACETONE CARBON DISULFIDE THF BDL 5 MEK MEK MIBK STYRENE STYRENE XYLENES BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 | | | |
| ACETONE CARBON DISULFIDE THF BDL 5 MEK MIBK STYRENE XYLENES BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 BDL 5 | | BDL | |
| ACETONE BDL 25 CARBON DISULFIDE BDL 5 THF BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 25 XYLENES BDL 5 | ETHYLBENZENE | BDL | |
| CARBON DISULFIDE BDL 5 THF BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 XYLENES BDL 5 | | | • |
| CARBON DISULFIDE BDL 5 THF BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 XYLENES BDL 5 | | BDL | 25 |
| ### BDL 25 MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 XYLENES BDL 5 | | BDL | |
| MEK BDL 25 MIBK BDL 25 STYRENE BDL 5 XYLENES BDL 5 | | BDL | |
| MIBK BDL 25 STYRENE BDL 5 XYLENES BDL 5 | | BDL . | |
| STYRENE BDL 5 XYLENES BDL 5 | | BDL | |
| XILENES BDL 5 | | BDL | |
| | XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5008-2 Sample Designation: M-2 Date analyzed: 7-24-85

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| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | DETECTION LIMIT |
|--|--|--------------------|
| 380 | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BD L | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 |
| 1,1,1-TRICHLOROETHANE | BDL BDL BDL BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trads-DICHLOROPROPENE TRICHLOROETHYLENE BENZENE | BDL BDL | 5 |
| 1,2-DICHLOROPROPANE | BD1. | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 5 . 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| CHLOROBENZENE ETHYLBENZENE | BDL | , 5 5 5 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | , - . |

Lab Number: 5008-3
Sample Designation: M-3
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|--------------------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | BDL . | 10 |
| VINYL CHLORIDE | 190 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 5 |
| 1,2-trans-DICHLOROETHYLENE | 250 | 5 |
| | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CADDON TEMPAGIII ODIDE | BDL | 5 5 5 |
| BROMODICHLOROMETHANE | BDL | ž |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 10 | 5 |
| BEN7ENE | BDL | |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 5 5 5 5 5 5 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | , 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 2 |
| TETRACHLOROETHYLENE | BDL | 5 5 |
| 1.1.2.2-TETRACHLOROFTHANE | BDL | |
| TOLUENE | BDL | r .5 |
| CHLOROBENZENE | BDL | 5 5 |
| ETHYLBENZENE | BDL | 5 5 |
| | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 25 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 25 |
| MIBK | BDL | 25 25 |
| STYRENE | BDL | 25 5 |
| XYLENES | BDL | 5 5 |
| | BUL | 5 |

Lab Number: 5008-3 (Laboratory Duplicate)
Sample Designation: M-3
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|----------------|-----------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | (ug/L) BDL | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE | 210 | 10 |
| CHLOROETHANE | BDL | . 5 |
| BROHOMETHARE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TO TOUT ADART HAD ALL MARK LAND | ALC 110 AC 142 | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 5 |
| 1,1-DICHLOROETHANE | RDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | 250 | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLORGETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 10 | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM TETRACHLOROETHYLENE | BDL | 5 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | _r .5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | 3 |

Lab Number: 5008-4
Sample Designation: M-4
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|--|-------------------|
| | | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| | (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE BENZENE | BDT. | 5 5 5 5 5 5 5 5 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | |
| 2-CHLOROETHYL VINYL ETHER | BDT. | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 5 5 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| | nn. | |
| CADRON DIGHTETOP | BDL | 25 |
| TUP | BDL | 5 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 25 |
| XYLENES | BDL | 5 |
| N. I DEN GO | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5008-5
Sample Designation: M-5
Date analyzed: 7-26-85

| VOLATILE ORGANICS | govanu | |
|--|-------------------|------------------|
| VOLKITLE ORGANICS | | DETECTION LIMIT |
| CHLOROMETHANE | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | EDL | 10 |
| CHIODOPTUANE | BDL | 10 |
| D D O M O M D THAN E | BDL | 5 |
| MEMULIENE OULORER | BDL | 10 |
| METHILENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 5 5 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDI. | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | . 5 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BNT | 5 |
| TETRACHLOROETHYLENE | BDL BDL BDI | 5 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | , 5 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 5 |
| | 555 | 5 |
| ACETONE | BDL | 0.7 |
| CARBON DISULFIDE | BDL | 25 |
| THF | BDL | 5 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 25 |
| XYLENES | BDL | 5 |
| | DUL | 5 |

Lab Number: 5008-6
Sample Designation: M-6
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | |
|--|--|-----------------|
| TOLKTILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
| CHLOROMETHANE | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | RDL | 24 |
| CHIODOCTUAND | RDL | 24 |
| PROMOMETUANS | BDL | 12 |
| METUVIENE CHIADIDE | BDL | 24 |
| MDICHIOROPHUS CHEURIDE | BDL | 12 |
| 1 - 1 - DICHLOROF EUCHOMETHANE | BDL | 12 |
| 1, I-DICHLOROETHYLENE | BDL | 1 |
| 1,1-DICHLORUETHANE | BDL | 12 |
| I, C CIANS DICHOROETHILERE | 10 | 12 |
| CHLOROFORM | BDL | 12 |
| 1,2-DICHLOROETHANE | BDL | 12 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARRON TETRACHLORIDE | BDL | 12 |
| OHEDOR ILIRACHLORIDE | BDL | 12 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 12 |
| 1,2-DICHLOROPROPANE | BDL | 12 |
| 1,3-trans-DICHLOROPROPENE | BDL | 12 |
| TRICHLOROETHYLENE | 30 | 12 |
| | BDL | 12 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 12 |
| 1,1,2-TRICHLOROETHANE | BDL | 12 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 12 |
| DIBROMOCHLOROMETHANE | BDL | 12 |
| BROMOFORM | BDL | 12 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | 950 | 12 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | . 12 |
| TOLUENE | BDL | 12 |
| CHLOROBENZENE | BDL | 12 |
| CHLOROBENZENE ETHYLBENZENE | BDL | 12 |
| ACETONE | BDL | 60 |
| CARBON DISULFIDE | BDL | 12 |
| Inr | BDL | 60 |
| MEK | BDL | 60 |
| MIBK | BDL | 60 |
| STYRENE | BDL | 12 |
| XYLENES | BDL | 12 |
| | | |

BDL = BELOW DETECTION LIMIT

Lab Number: 5008-7 Sample Designation: M-7 Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|---|
| ************************************** | (ug/L) | (ug/L) |
| CHLOROMETHANE | | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFILLOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CAPPON TETRACHLORIDE | BDL | 5 |
| ORRDON LEIRACHLUHIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 5 5 5 5 5 5 5 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| DENZERB | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | - 5 |
| TOLUENE | BDL | 5 5 5 5 5 5 5 5 5 5 5 |
| CHLOROBENZENE | BDL | 5 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | - 5 |

Lab Number: 5008-8
Sample Designation: M-8
Date analyzed: 7-26-85

| VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL 260 BDL BDL BDL BDL | DETECTION LIMIT |
|---|--|-----------------|
| aut analyses | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE | BDL | 14 |
| VINYL CHLORIDE | 260 | 14 |
| BROMOMERIANE | BDL | 7 |
| BROMOMETHANE | BDL | 14 |
| METHYLENE CHLORIDE | BDL | 7 |
| TRICHLOROFLUOROMETHANE | BDL | 7 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 7 |
| 1,1-DICHLOROETHANE | Trace | 7 |
| 1,2-trans-DICHLOROETHYLENE | 610 | 7 |
| CHLOROFORM | BDL | 7 |
| 1,2-DICHLOROETHANE | BDL | 7 |
| 1,1,1-TRICHLOROETHANE | BDL | 7 |
| CARBON TETRACHLORIDE | BDL | 7 |
| BROMODICHLOROMETHANE | BDL | 7 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 7 |
| 1,3-trans-DICHLOROPROPENE | BDL | 7 |
| TRICHLOROETHYLENE | 30 | 7 |
| BENZENE | BDL | 7 |
| 1,3-cis-DICHLOROPROPENE | BDL | 7 |
| 1,1,2-TRICHLOROETHANE | BDL | 7 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 7 |
| DIBROMOCHLOROMETHANE | BDL | 7 |
| BROMOFORM TETRACHLOROETHYLENE | BDL | 7 |
| TETRACHLOROETHYLENE | Trace | 7 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 7 |
| TOLUENE | BDL | 7 |
| CHLOROBENZENE | BDL | 7 |
| ETHYLBENZENE | BDL | 7 |
| | | * |
| ACETONE | BDL | 35 |
| CARBON DISULFIDE | BDL | 7 |
| THF | BDL | . 35 |
| MEK | BDL | 35 |
| MIBK | BDL | 35 |
| STYRENE | BDL | 7 |
| XYLENES | BDL | 7 |

[&]quot;Trace" denotes probable presence below listed detection limit.

Lab Number: Sample Designation: Date analyzed:

5008-30 Trip Blank 7-26-85

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM 1,2-DICHLOROETHANE | CONCENTRATION | DETECTION LIMIT |
|--|--------------------------------|--|
| CHLOROMETHANE | (ug/L) BDL BDL BDL BDL BDL BDL | (ug/L) |
| VINYL CHLORIDE | BDT. | 10 |
| CHLOROETHANE | BDI | 10 |
| BROMOMETHANE | BDI | . 5 |
| METHYLENE CHIORIDE | PDT | 10 |
| TRICHIOPOFI HODOMETHAND | BUL | 5 |
| 1 1-DICHIODOFTHVIENE | BDL | 5 |
| 1 1-DICULOROETHILENE | BDL | 5 5 |
| 1,1 DICTIONOEINANE 1 2-t-page-RICULOBOEMUVIEUR | BDL | 5 |
| CHIODODODM | BDL | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 5 5 5 5 5 5 5 5 5 |
| 1,2-DICHLORUEIHANE | BDL | 5 |
| CARRON TETRICALUNCETHANK | BDL | 5 |
| | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5. |
| TOLUENE | BDL | |
| CHLOROBENZENE | BDL | 5 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

ENVIRONMENTAL FIELD SERVICES, INC. Box 4778
Hampton, N.H. 05842
(605) 926-8142

LOCATION:

ATF DAVIDSON, WHITINSVILLE, MA

ENGINEERS:

Caswell, Eichler and Hill, Inc.

SAMPLING DATE:

11/13/85

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | | D/TEMP /cm °C | рН |
|----------------|----------------|----------|------|------------------------------------|-----|------------------|------|
| M-1 | 141 | 1.5" | 1455 | 7.17' | 300 | 15 | 5.25 |
| M-2 | 12' | 1.5" | 1520 | 7.74 | 242 | 16 | 8.15 |
| M-3 | 10' | 1.5" | 1710 | 6.48' | 208 | 15 | 7.40 |
| M-4 | 10' | 1.5" | 1650 | 7.351 | 120 | 16 | 6.60 |
| M-5 | 10' | 1.5" | 1540 | 7.02' | 358 | 18 | 6.30 |
| M-6 | 10' | 1.5" | 1620 | 7.08 | 230 | 15 | 6.36 |
| M-7 | 9.5' | 1.5" | 1606 | 6.24' | 229 | 15 | 9.55 |
| M-8 | 9.8' | 1.5" | 1640 | 6.71 ' | 170 | 15 | 9.13 |
| | | | | | | | |

Total depths come from the well plans.

1

Resource Analysts, Incorporated

Box 4778 Hampton, NH 03842 (603) 926-7777

| то: | PO # ATF/Davidson |
|---|-------------------------------|
| Mr. Matt Eichler | Date Received: 11-14-85 (1030 |
| Caswell, Eichler, and Hill P.O. Box 4696 Portsmouth, NH 03801 | Lab Number: 5665 |
| The transfer of the second of | Date Peported: 11 00 05 |

Please find attached results for Volatile Organic Compounds, Arsenic, Barium, and Zinc.

Tusta Door

Date 11.29.85

Technical Director

CHAIN OF CUSTODY DOCUMENTATION

page

ADDRESS :-

Resource Analysts, Incorporated

L. 01__ page CHAIN OF CUSTODY DOCUMENTATION 15.1 CLIENT. ADDRESS JOB NAME/NUMBER PROJECT CONTACL SAMPLING LOCATION AST TO ... 11 SAMPLE COLLECTOR FIELD IDENTIFICATION FIELD REMARKS/ANALYSIS REQUESTED LAB # SAMPLE CONTAINER FILTRA-**PRESERVATION** list each container separately HATRIX TYPE/VOLUME TION OP/ LAST @ field O 3011d HNOS F_{i} Direct 21 O lab O none Q 6/ O 6/1/ Liquid mL 1455 111 Other mL Osolid! 8% ml O fiel mt O lab OLiquid i 1520 Other O G/1/ ml O none lime Date OP/ ml () field OSolid Q G/T/ mt 8 lab 8 Liquid Other 1710 lime none Date Solid Cliquid OP/ mt O field OG/ O lab mL 1:0 OG/1/ O none Oother mL Date lime 86/ O fiel# OSolid mL O lab OLiquid m1 OG/1/ O none Other Time Date 3°/ O field Osnild mL mL S lab Quali OG/1/ Oothe: Date lime none Osolid OP/ mL () field Oc/ mL O lab OLiquid Oother OG/1/ mL () none Date lime ml O lield OSolid OP/ Stidniq A ml O lab OG/ , ml O none , asto Time OG/1/. Relinquished By: Date lime Received Byt. Date fine 1. Received For Laboratory By: 11140 Relinquished By: Date Date Ilma 1030 Resource Analysts, Incorporated

Resource Analysts, Incorporated

nid CHAIN OF CUSTODY DOCUMENTATION CLIENT ADDRESS : JOB NAME / NUMBER PROJECT CONTACL... SAMPLING LOCATION ATT SAMPLE COLLECTOR FIELD IDENTIFICATION CONTAINER FILTRA-FIELD REMARKS/ANALYSIS REQUESTED LAB # SAMPLE list each container separately MATRIX TYPE/VOLUME TION PRESERVATION OP/ mi O field O \$011d 100 - 211 - 2 . OG/ mt O lab OG/1/45 mt O none OLiquid 2.0 1455 Other Als: 10 he Ilme 84 mt O field Osolid mt O lab OLiquib 1530 O 6/1/ mL O none OOther Date lime 86/ mt O field O Solld ml 8 lab 8 Liquid 17/0 06/1/ lime Solid Stiquid OP/ ml O field mL O lab OG/ 11.55 O6/1/ mL O none lime Other Dale ml O field OP/ Osolid 790 mL O lab OLiquis 1-40 OG/1/ Other mL O none Date 11me OP/ Osolid ml O field OLiquid . OG/ O lab mL mL O none Other OG/1/ Date lime ml O field Osolid OP/ mt O lab OLIquid OG/ 1,50 O6/1/ ml O none lime Other Date मा हिंगाना OP/ OSolld ml O lab Stigute OG/ 1. . . 5 Date lime OG/1/\ # Received By: Relinquished By: Date Time Date line Received for Laboratory, By: Relinquished By: Date line Date lime Laure Clarke 1//1 10131

page

Resource Analysts, Incorporated

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Feld Identification: M-l Laboratory Number: 5665-9 Matrix: Water

| zed Method Ref. | Concentration |
|-----------------|---------------|
| 303A 1 | <0.01 |
| 303C 1 | <0.2 |
| 303A 1 | <0.005 |
| | 303C 1 |

eld Identification: M-2 aboratory Number: 5665-10 Matrix: Water

| 0 | Parameter | Date analyzed | Method Re | ef. Concentration |
|---|---------------------------|---------------|-----------|-------------------|
| S | Arsenic, dissolved (mg/L) | 11-15-85 | 303A 1 | <0.01 |
| | Barium, dissolved (mg/L) | 11-15-85 | 303C 1 | <0.2 |
| | Zinc, dissolved (mg/L) | 11-20-85 | 303A 1 | <0.005 |

eld Identification: M-3 aboratory Number: 5665-11

Matrix: Water

| | Parameter | Date analyzed | Method | Ref. | Concentration |
|---|--|----------------------|--------------|------|---------------|
| | Arsenic, dissolved (mg/L) Barium, dissolved (mg/L) | 11-15-85 11-15-85 | 303A 303C | 1 | <0.01 <0.2 |
| | Zinc, dissolved (mg/L) | 11-15-85 | 303A | 1 | 0.005 |
| ı | | | | | |

rield Identification: M-4 _aboratory Number: 5665-12

Matrix: Water

| Parameter | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 0.72 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

Reference 1: Standard Methods, 16th Edition

.ld Identification: M-5 Matrix:

boratory Number: 5665-13

| arameter | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| _ arium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 3.1 |
| Linc, dissolved (mg/L) | 11-20-85 | 303A | 1 | 0.011 |

:ld Identification: M-6 Matrix: Water

poratory Number: 5665-14

| 'arameter | Date analyzed | Method | Ref. | Concentration |
|---------------------------|---------------|--------|------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Parium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 0.73 |
| linc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |

F ≥ld Identification: M-7 Matrix: Water Doratory Number: 5665-15

Date analyzed Method Ref. Concentration

Field Identification: M-8 Matrix: Water
L boratory Number: 5665-16

| <u>Parameter</u> | Date analyzed | Method | Ref.m | Concentration |
|---------------------------|---------------|--------|-------|---------------|
| Arsenic, dissolved (mg/L) | 11-15-85 | 303A | 1 | <0.01 |
| Barium, dissolved (mg/L) | 11-15-85 | 303C | 1 | 1.4 |
| Zinc, dissolved (mg/L) | 11-20-85 | 303A | 1 | <0.005 |
| | | | | |

Reference 1: Standard Methods, 16th Edition

Water

Lab Number: 5665-1
Sample Designation: M-1
Date analyzed: 11-16-85

| VO | LATILE ORGANICS | CONCENTRATION | |
|-----|--|---------------|---------------------------------|
| | | (ug/L) | (ug/L) |
| СН | LOROMETHANE | BDL | 10 |
| VI | NYL CHLORIDE | BDL | 10 |
| CH | LOROETHANE | BDL | 5 |
| BR | OMOMETHANE | BDL | 10 |
| ME | LOROETHANE OMOMETHANE THYLENE CHLORIDE ICHLOROFLUOROMETHANE | BDL | 5 |
| TR | ICHLOROFLUOROMETHANE | BDL | 5 5 5 5 |
| 1, | 1-DICHLOROETHYLENE | BDL | 5 |
| 1, | 1-DICHLOROETHANE | BDL | 5 |
| 1, | 1-DICHLOROETHYLENE 1-DICHLOROETHANE 2-trans-DICHLOROETHYLENE | BDL | |
| -cu | TABARADM | BDL | 5 |
| 1, | 2-DICHLOROETHANE | BDL | 5 |
| 1, | 2-DICHLOROETHANE 1,1-TRICHLOROETHANE | BDL | 5 |
| UA | RBON TETRACHLORIDE | BDL | 5 |
| BR | OMODICHLOROMETHANE 2-DICHLOROPROPANE | BDL | 5 5 |
| 1, | 2-DICHLOROPROPANE | BDL | 5 |
| 1, | 2-DICHLOROPROPANE 3-trans-DICHLOROPROPENE | BDL | 5 |
| TR | ICHLOROETHYLENE | BDL | 5 |
| BE | NZENE | BDL | 5 |
| 1, | NZENE 3-cis-DICHLOROPROPENE 1,2-TRICHLOROETHANE CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1, | 1,2-TRICHLOROETHANE | BDL | 5 |
| 2- | CHLOROETHYL VINYL ETHER | BDL | 5 |
| DI | BROMOCHLOROMETHANE OMOFORM TRACHLOROETHYLENE 1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 5 5 5 5 |
| BR | OMOFORM | BDL | 5 |
| TE | TRACHLOROETHYLENE | BDL | 5 |
| l, | 1,2,2-TETRACHLOROETHANE | BDL | |
| 10 | LUENE | BDL | 5 5 5 |
| CH | LOROBENZENE | BDL | 5 |
| ET | HYLBENZENE | BDL | 5 |
| | ETONE | BDL | 25 |
| CA | RBON DISULFIDE | BDL | 5 |
| TH | | BDL | 25 |
| ME | K | BDL | 25 |
| MI | | BDL | 25 |
| | YRENE | BDL | 5 |
| ΧY | LENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: Sample Designation: Date analyzed: 5665-2 M-2

11-16-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|----------------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 5 |
| METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 5 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 🛌 |
| TOLUENE | \mathtt{BDL} | |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5665-2 (Laboratory Duplicate)
Sample Designation: M-2
Date analyzed: 11-16-85

| | | 122 |
|--|---------------|-----------------|
| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
| 1 | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1.1-DICHLOROETHANE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 5 5 |
| BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| 5,000 St. 10,000 - 0,000,43,500,000 - 0,000 | | • |

BDL = BELOW DETECTION LIMIT

Lab Number: 5665-3
Sample Designation: M-3
Date analyzed: 11-16-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT (ug/L) |
|--|---------------------|---|
| CHLOROMETHANE | (ug/L) BDL 80 | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | 80 | 10 |
| CHLOROFTHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHIORIDE | BDL | |
| TRICHLOROFILIOROMETHANE | BDL | 5 |
| 1 1-DICHLOROFTHYLENE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | 20 | 5 |
| CHLOROFORM | BDL | 5 |
| | BDL | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 5 5 5 5 5 5 5 |
| | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 5 5 5 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5665-4
Sample Designation: M-4
Date analyzed: 11-16-85

| VOLATILE ORGANICS | | DETECTION LIMIT |
|---|--------|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | Trace | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1.1-DICHLOROFTHYLENE | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | Trace | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | |
| 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

[&]quot;Trace" denotes probable presence below listed detection limit.

Lab Number: 5665-5
Sample Designation: M-5
Date analyzed: 11-16-85

| VOLATILE ORGANICS | | DETECTION LIMIT |
|--|-------------|--|
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | DD D | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 5 5 5 5 5 5 5 5 |
| CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 |
| | BDL | 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | |
| CHLOROBENZENE | BDL | 5 5 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5665-6
Sample Designation: M-6
Date analyzed: 11-19-85

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|----------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | 180 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | 330 | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 5 |
| 1,1,1-TRICHLOROETHANE | BDL | |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 13 | 5 5 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 5 5 5 5 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | 27 | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 * ' |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 5665-7
Sample Designation: M-7
Date analyzed: 11-19-85

| VOLATILE ORGANICS | | DETECTION LIMIT |
|--|--------|---------------------------------|
| ant a paupant wa | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| TRICHLOROFLUOROMETHANE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | 9 | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 5 5 5 5 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 5 |
| | BDT. | 5 5 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | Trace | 5 |
| BENZENE | Trace | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 5 5 5 5 5 5 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

[&]quot;Trace" denotes probable presence below listed detection limit.

Lab Number: 5665-8
Sample Designation: M-8
Date analyzed: 11-19-85

| | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|--|--|-----------------|
| | CHLOROMETHANE | (ug/L) BDL 380 BDL BDL | (ug/L) |
| | CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE TRICHLOROFLUOROMETHANE | 380 | 50 |
| | CHIODOFTHANS | 380 | 50 |
| | DECHONERULNE | . BUL | 25 |
| | BRUMOME I RANE | RDT | 50 |
| | METHYLENE CHLORIDE | BUL | 25 |
| | TRICHLOROFLUOROMETHANE | BDL | 25 |
| | 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 25 |
| | 1,1-DICHLOROETHANE | RDL | 25 |
| | 1,2-trans-DICHLOROETHYLENE | 1100 | 25 |
| | CHLOROFORM | BDL | 25 |
| , | 1,2-DICHLOROETHANE | BDL | 25 |
| ٠ | CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 25 |
| | CARBON TETRACHLORIDE | BDL | 25 |
| | BROMODICHLOROMETHANE | BDL | 25 |
| | BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL BDL BDL BDL BDL BDL | 25 |
| | 1,3-trans-DICHLOROPROPENE | BDL | 25 |
| | TRICHLOROETHYLENE | Trace | 25 |
| | BENZENE | BDL | 25 |
| | 1,3-cis-DICHLOROPROPENE | BDL | 25 |
| | 1,1,2-TRICHLOROETHANE | BDL | 25 |
| | 2-CHLOROETHYL VINYL ETHER | BDT. | 25 |
| | DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 25 |
| | BROMOFORM | BDL | 25 |
| | TETRACHLOROETHYLENE | BDL | 25 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 25 |
| | TOLUENE | BDL | 25 |
| | CHLOROBENZENE | BDL | 25 |
| | ETHYLBENZENE | BDL | 25 |
| | | | 20 |
| | ACETONE | BDL | 120 |
| | CARBON DISULFIDE | זחמ | 25 |
| | THF | BDL | 120 |
| | MEK | BDT. | 120 |
| | MIBK | BDL BDL BDL BDL BDL | 120 |
| | STYRENE | BDL | 25. |
| | XYLENES | BDI. | 25 |
| | | | |

"Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

ENUTROS MENTAL FIELD SERVICES INC. Box 4778 Hampion, N.H. 08842

(603) 926-81-12

LOCATION:

ATF Davidson, Whitinsville, MA

ENGINEERS:

Caswell, Eichler and Hill

SAMPLING DATE: 2/10/86

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | COND/ umhos/cm | | рĦ |
|----------------|----------------|----------|------|------------------------------------|-------------------|------|-----|
| M-1 | 14' | 1.5" | 1235 | 8.21' | 280 | 10.0 | 6.8 |
| M-2 | 12' | 1.5" | 1247 | 8.52 | 220 | 10.1 | 8.7 |
| M-3 | 10' | 1.5" | 1407 | 6.79' | 161 | 10.2 | 7.0 |
| M-4 | 10' | 1.5" | 1315 | 7.81' | 104 | 10.3 | 7.0 |
| M-5 | 10' | 1.5" | 1348 | 7.33 | 290 | 10.1 | 6.8 |
| M-6 | 10' | 1.5" | 1421 | 7.62' | 218 | 10.0 | 6.9 |
| M-7 | 9.5' | 1.5" | 1426 | 6.94 | 170 | 10.2 | 9.7 |
| M-8 | 9.8' | 1.5" | 1458 | 7.08' | 150 | 10.3 | 8.1 |

Total depths come from the well plans.

| Resource | Analysts | Incorporate | _ |
|----------|-----------|-------------|---|
| RESOURCE | Armin so. | писогрогше | 4 |

Box 4778 Hampton, NH 03842 (603) 926-7777

TO:

Mr. Matthew Eichler Caswell, Eichler and Hill PO Box 4696 Portsmouth, NH 03801 PO # ATF Davidson

Date Received: 2-11-86 (9:35)

Lab Number: 6205

Date Reported: 2-26-86

Please find attached results for Volatile Organic Compounds and Barium.

tusell Joseph

Date 2-26-86

Technical Director

| CHAIN OF CUSTODY DOCUMENTATION | | | CLECHT C. S. ADDRESS : | Portsma | | 380/ | 01 | |
|---|-----------|---------------------------------|--|----------------------------|--|-------------|-------------|------------------|
| SAMPLING LOCATION ATT Deviluo M | 1hibrauil | le MA | SAMPLE COLLEC | 10RA De | to R. M. | Completton | | |
| FIELD IDENTIFICATION List each container separately | LAB / | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- = TION | FICLD PRESCRYATION | REHARKS/ANA | LYSIS REQUI | SILD |
| 2/10/86 Date M-1 line 12-35 | | O Solid O Liquid O Other | | O field O lab O none | cool. | VOA - EP. | 1621 | |
| Date 11-2 11mo 1247 | | O Solld O Liquid O O Lher | O P / al O G / 1 al O G / 1 / al | O fle d O lab | , | | | |
| Die 11-3 11me 1515 | | O Solld Other | 86/1/ ml | Ofled Slab Done | | | | |
| Date M-4 Time 1315. | | Solid Cliquid Quhen | OG/T/ mt | O fletd O lab O none | | | | |
| Die 11-5 11me 1348 | | Stiguld Quiber Osoll | 86/1/ ml | Ofield Onone Ofield | | | | |
| Date 111-6 11me 1421 | | Stiguld. | OG/1 mil | O lab O none | | | | |
| Dite 111-7 Ilma 1426 | | Ollqu d Olher Osolla | | O 126 O 0000 O 11611 | | - | | |
| 6 11-8 11me 1458 | ļ | Stinu d | Of/ OG/1/ / ml | S lab | | 7/ | | |
| Sollaguished By: 1 | Date | 1130 | Received Byt | | 1- | | Date | 111-1 |
| Relinquished By: | Date | | Referred For | 1.00 | ly: | omorated | 2/11/86 | 13.4. 179.85. |

| MOLTATNAHUSOD YDDIZUS TO KIAHS | | | CLICHT(| O. EH | p: | ige <u>3</u> 0 | <u>3</u> | |
|---|------------|------------------------------|--------------------------------------|-----------------|--|----------------|-------------|--------------|
| | | • | , | | | | - | 1 |
| PROJECT CONTACT MAST Eichler | | | JOB HAHE | | 10 . | | | 27) 24 |
| SAMPLING LOCATION ATT Deviden | Whitinsvil | (<u>, r</u> 1)() | SAMPLE COLLEC | 108 M/A | in the land | 11: Constilles | | |
| FICED IDENTIFICATION List each container separately | LAB # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILIRA- | FIELD PRESCRYATION | REHARKS/ARALI | ISIS REQUES | 110 |
| 2/10/84 M-1 line 1235 | | Liquid | (1) P/ 1 25 ml OG/ ml OG/17 ml | | YN03 | DBs. lved | Ba riv | 11 |
| .4. 2 ./2 | | Quiher Osolid Oliquia | 86/ 1 | O field | c-60 (| | | |
| 21. 2 | | Osolid Oliquid | 86/ ml | O lab | | | | |
| 0111 M-3 11ms 1515 | | Bliquid Other Osolid | OP/ nl | S none | | | | |
| Date 111-1/ 11me 13/5. | | Ottquis Qother | O6/1/ mL | O lab O none | | | | |
| Oate 111-5 11mc 1248 | | Stolld Stiquid Other | OG/1/ mt | O lab O none | | | | |
| Date 117-6 Time 1421 | | Osolld Oliquid. Olther | OF/ ml OG/1/ ml | | | | | |
| Date 1177 11mg /47C | | Solld Elquid Other | OG/ #1 | del O Lala | | | - | |
| Date 111 - 8 11ms 1458 | | Stigute Sthere | OP/ PI | | | | 1 | |
| Prinquished By: | Date 2/ | , lima | Received Byt. | - | ************************************** | | Date | llee |
| Relinquished By: | Date | | Received For | nn 11 | ly: le e Analysis, Inc | | 2/11/8% | 11=1 C935 |

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| CHAIN OF CUSTODY BOCUMENTATION | | | CLIENTC ADDRESS : | EH | p | ige <u>.3</u> | 10 | - |
|---|-------|-------------------------------------|--------------------------|------------------------------|------------------------|---------------|---------------|--------------|
| PROJECT CONTACT Mail Fichles SAMPLING LOCATION | | | | Λ | Down Calls | | | |
| FICLD IDENTIFICATION List each container separately | LAB # | SAMPLE MATRIX | CONTAINER TYPE/VOLUNE | FILIRA- TION | FIELD PRESERVATION | REHARKS/AKA | rf 1212 BCONG | CSIED |
| 2/10/86 Trip 0116 Bl/11/2 11me | | Osolid Oliquid Oliher | Q G/ mL | O none | cool | VOA-EVI | 9624 | |
| Date 11me | | Osolid Oliquid Other | 86/1/ mL | Offeld Slab none | | • | | |
| | | O Solld Other | 86/ mL | Offeld Slab Done | | | | |
| Date Time | | Solid Oliquid Other | OG/ mL | O field O lab O none O field | | | | |
| Date Time | | Solld Stiquid Other Osolld | 86/ mL | O lab O none O field | | | | |
| Date Time | | Oliquid. Olher Osolid | OG/1/ ml | O lab none O lield | | | | |
| Date Simo | | Ollquid Other Osolid | OG/1/ mt | O lab | | | | |
| Date Time | | Sliquid Other | 86/ ml | O lab none | | | | |
| Rollnquished By: | 23/11 | 11ma 109 215 | Received Byt. | | | | Date | 1100 |
| Relinquished By: | Date | Time | Ratalyad For | Mr. Pel | By: Ode Analysts Inc. | omorated | 2/11/86 | 11== 0935 |

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Parameter: Barium, dissolved (mg/L) Method: 303C Reference: 1

| Laboratory Number | Field Identification | Concentration |
|-------------------|----------------------|---------------|
| | • | |
| 6205-10 | M-1 | <0.3 |
| 6205-11 | M-2 | <0.3 |
| 6205-12 | M-3 | <0.3 |
| 6205-13 | M-4 | <0.3 |
| 6205-14 | M-5 | 3.0 |
| 6205-15 | M-6 | 1.1 |
| 6205-16 | M-7 | <0.3 |
| 6205-17 | M-8 | 1.2 |

Matrix: Water

Reference 1: Standard Methods, 16th Edition

Lab Number: 6205-1 Sample Designation: M-1 Date analyzed: 2-13-86

| | DETECTION LIMIT |
|----------|--|
| (ug/L) · | (ug/L) |
| BDL | 10 |
| BDL | 10 |
| BDL | 5 |
| BDL | 10 |
| BDL | 5 |
| BDL | 5 5 5 5 5 5 5 |
| BDL | 5 |
| BDL | 5 |
| DnT | 10 |
| BDL | 5 |
| BDL | |
| BDL | 5 5 5 |
| BDL | 5 |
| TRACE | 5 5 5 5 5 |
| BDL | 5 |
| BDL | 5 - |
| BDL | 5 |
| BDL | 5 |
| BDL | 5 |
| BDL | 5 5 5 5 5 |
| BDL | 5 |
| TRACE | 5 |
| BDL | 5 |
| BDL | 5 |
| | |
| BDL | 25 |
| BDL | 5 |
| BDL | 25 |
| BDL | 25 |
| | 25 |
| | 25 |
| | 5 |
| BDL | 5 |
| | (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

Lab Number: 6205-1 (Laboratory Duplicate)
Sample Designation: M-1
Date analyzed: 2-13-86

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENTRATION | DETECTION LIMIT |
|--|---------------|------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 5 5 5 5 5 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | |
| TRICHLOROETHYLENE | BDL | 5 |
| DENTENE | BDL | 5 5 5 5 5 5 5 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | Š |
| 2-CHLOROETHYL VINYL ETHER | BDL | ž , |
| DIBROMOCHLOROMETHANE | BDL | ž *. |
| BROMOFORM | BDL | |
| TETRACHLOROETHYLENE | BDL | 5 5 5 5 |
| 1.1.2.2-TETRACHLOROFTHANE | BDL | 5 |
| TOLUENE | 12 | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | BDL | 5 |
| ACETONE CARBON DISULFIDE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | • |

BDL = BELOW DETECTION LIMIT

Lab Number: 6205-2
Sample Designation: M-2
Date analyzed: 2-13-86

| | VOLATILE ORGANICS | CONCENTRATION | |
|---|---|---------------|-----------------------|
| | CHIADONEMIANE | (ug/L) - | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | BDL | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE | BDL | 5 |
| | 1,1-DICHLOROETHYLENE | BDL | 5 |
| • | 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 5 5 5 5 |
| | 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| | CHLOROFORM | BDL | 5 |
| | 1,2-DICHLOROETHANE | BDL | 5 |
| | 1,1,1-TRICHLOROETHANE | BDL | 5 |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | VINYL ACETATE | BDL | 10 |
| | BROMODICHLOROMETHANE | BDL | 5 |
| | 1,2-DICHLOROPROPANE | BDL | 5 |
| | 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| | TRICHLOROETHYLENE | BDL | 5 |
| | BENZENE | TRACE | 5 5 5 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | |
| | 1,1,2-TRICHLOROETHANE | BDL | 5 5 |
| | 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | DIBROMOCHLOROMETHANE | BDL | 5 5 |
| | BROMOFORM | BDL | |
| | TETRACHLOROETHYLENE | BDL | 5 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | TOLUENE | BDL | 5 5 5 5 5 |
| | CHLOROBENZENE | BDL | 5 |
| | ETHYLBENZENE | BDL | 5 |
| | | | |
| | ACETONE | BDL | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | - 25 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL | 25 |
| | STYRENE | BDL | 5 |
| | XYLENES | BDL | 5 |
| | | | |

[&]quot;Trace" denotes probable presence below listed detection limit.

MATRIX SPIKE DUPLICATE RECOVERY

LAB NUMBER 6205-2 DATE 2-13-86 SAMPLE DESIGNATION M-2

| COMPOUND | CONCENTRATION SPIKE ADDED (u/g) | SAMPLE RESULT | CONCENTRATION MATRIX SPIKE | % RECOVERY | CONCENTRATION MATRIX DUP. SPIKE | % RECOVERY | RELATIVE % DIFFERENCE |
|----------------------|---------------------------------|------------------|-------------------------------|---------------|---------------------------------|---------------|--------------------------|
| 1,1 DICHLOROETHYLENE | 63 | 0 | 59 | 94 | . 60 | 95 | 1.0 |
| TRICHLORGETHYLENE | 51 | 0 | 46 | 90 | 48 | 94 | 4.3 |
| BENZENE | 5 54 | 0 | 41 | 76 | 45 | 83 | 8.8 |
| TOLUENE | 52 | 0 | 47 | 90 | 67 | 128 | 35 |
| CHLOROBENZENE | 52 | O | 49 | 94 | 53 | 102 | 8.2 |
| | | | | | | | |
| | | r | ļ | | | | 1 |

Resource Analysts, Incorporated

METHOD REFERENCE: EPA 600/4-82-057

METHOD 624

Lab Number: 6205-3
Sample Designation: M-3
Date analyzed: 2-21-86

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|-------------------------|------------------|
| | (ug/L) - | (ug/L) |
| CHLOROMETHANE | RNI | 10 |
| VINYL CHLORIDE | BDL 19 BDL BDL | 10 |
| CHLOROFTHANE | זחם | |
| BROMOMETHANE | ממפ | 5 |
| METHYLENE CHIORIDE | BDL | 10 |
| 1 1-DICHIOPOETHVIENE | BDL | 5_ |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | | 5 |
| 1, 1 DICTEORDE I DANCE | BDL | 5 |
| CHLOROFORM | 9 | 5 |
| C D T CUI O D C D CUI A C D C D C C C C C C C C C C C C C C C | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 5 5 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 + . |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE CHLOROBENZENE | BDL | 5 |
| | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 25 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 5 |
| | BDL | Э |

Lab Number: 6205-4
Sample Designation: M-4
Date analyzed: 2-13-86

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|-----------------------------|----------------------------|
| | (ug/L) - | (ug/L) |
| CHLOROMETHANE | (ug/L) - BDL BDL 25 BDL BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | 25 | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 5 5 5 5 |
| 1,1,1-TRICHLOROETHANE | | 5 |
| CARBON TETRACHLORIDE | BDL BDL | 5 |
| VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1.2-DICHLOROPROPANE | BDL | 5 |
| 1.3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL BDL | 5 5 5 5 |
| 1,1,2-TRICHLOROETHANE | BDL | Š |
| 2-CHLOROETHYL VINYL ETHER | BDL | 55555555 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| 1.1.2.2-TETRACHLOROETHANE | BDL | 2 |
| TOLUENE | BDL | 2 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | 201 | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | |
| THF | BDL | 25 |
| MEK | BDL | 25 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | |
| XYLENES | BDL | 5 5 |
| | שטם | 5 |

Lab Number: 6205-5
Sample Designation: M-5
Date analyzed: 2-14-86

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|--------------------------|------------------|
| | (ug/L) - | (ug/L) |
| CHLOROMETHANE | BDL BDL BDL BDL | 10 |
| VINYL CHLORIDE | nn i | 10 |
| CHLOROETHANE | BDL | 5 |
| DDANANDMILNE | BDL | |
| METHVIENE CHIODIDE | DDI | 10 |
| 1 1-DICULOBORMULEUR | BDL | 5 |
| 1,1-DICHLOROEINILENE | BDL | 5_ |
| METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 5 5 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| VINVI ACDMAME | BDL | 10 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE - | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 5 |
| BROMOFORM | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 5 |
| | BBL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 25 |
| STYRENE | BDL | |
| XYLENES | BDL | 5 5 |
| | עענו | ə |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624 Resource Analysts, Incorporated

Lab Number: 6205-5 (Laboratory Duplicate)
Sample Designation: M-5
Date analyzed: 2-14-86

| VOLATILE ORGANICS | CONCENTRATION | 777777 |
|---|---|--------------------------------------|
| , obniibe ondanies | (ug/L) | |
| CHLOROMETHANE | BDL | (ug/L) |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 10 |
| BROMOMETHANE | BDL | 5 |
| METHYLENE CHLORIDE | BDL | 10 |
| 1 1-DICHIOPOPTHYIPNE | A SACRETON OF THE PROPERTY OF | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 5 5 5 5 |
| 1 2-trans-DICULODOPTUVI PUP | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,2-DICTLORUEITANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 5 5 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | |
| 1,1,2-TRICHLOROETHANE | BDL | 5 . |
| 2-CHLOROETHYL VINYL ETHER | BDL | |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 5 5 5 5 5 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | |
| XYLENES | BDL | 5 5 |
| | | (2 7. 9) |

BDL = BELOW DETECTION LIMIT

Lab Number: 6205-6
Sample Designation: M-6
Date analyzed: 2-17-86

| VOLATILE ORGANICS | | DETECTION LIMIT |
|--|-----------------------------------|-----------------|
| | (ug/L) - | (ug/L) |
| CHLOROMETHANE | BDL | 50 |
| VINYL CHLORIDE | TRACE | 50 |
| CHLOROETHANE | BDL | 25 |
| BROMOMETHANE | BDL | 50 |
| METHYLENE CHLORIDE | BDL TRACE BDL BDL BDL BDL BDL BDL | 25 |
| 1.1-DICHLOROETHYLENE | BDL | 25 |
| 1.1-DICHLOROETHANE | BDL | 25 |
| METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | TRACE | 25 |
| | | 25 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 25 |
| 1.1.1-TRICHLOROETHANE | TRACE | 25 |
| CARBON TETRACHLORIDE | BDL | 25 |
| | BDL | 50 |
| BROMODICHLOROMETHANE | BDL | 25 |
| 1,2-DICHLOROPROPANE | BDL | 25 |
| VINYL ACETATE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL BDL BDL TRACE | 25 |
| ΤΡΙ Λ ΕΙΛΟΛΕΨ Ι ΥΙΕΝΕ | TRACE | 25 |
| BENZENE 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE | BDL | 25 |
| 1,3-cis-DICHLOROPROPENE | BDL | 25 |
| 1,1,2-TRICHLOROETHANE | BDL | 25 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 25 |
| DIBROMOCHLOROMETHANE | BDL | 25 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL BDL 73 BDL | 25 |
| TETRACHLOROETHYLENE | BDL 73 BDL | 25 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 25 |
| TOLUENE | BDL | 25 |
| CHLOROBENZENE | BDL | 25 |
| ETHYLBENZENE | BDL | 25 |
| | | |
| ACETONE | BDL | 125 |
| CARBON DISULFIDE | BDL | 25 |
| THF | BDL | 125 |
| MEK | BDI. | 125 |
| MIBK | BDL | 125 |
| 2-HEXANONE | BDL | 125 |
| STYRENE | BDL | 25 |
| XYLENES | BDL BDL BDL BDL | 25 |
| | | |

"Trace" denotes probable presence below listed detection limit. Detection limit raised by the presence of non-listed compounds.

BDL = BELOW DETECTION LIMIT

Lab Number: 6205-7
Sample Designation: M-7
Date analyzed: 2-14-86

| VCLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------------------------|--|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL BDL BDL BDL BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 5 5 5 5 5 |
| CHLOROFORM | TRACE | 5 |
| 1.2-DICHLOROETHANE | BDL | 5 |
| 1.1.1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1.2-DICHLOROPROPANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| TRICHLOROFTHYLENE | BDL | 5 |
| BENZENE | BDL | 5 5 5 5 5 5 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| 1.1.2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 . |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 = |
| TETRACHLOROFTHYIENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | 6 BDL | 5 |
| CHLOROBENZENE | BDL | 5 5 5 5 5 5 |
| ETHYLBENZENE | BDL | 5_ |
| LIMIL DENZENE | BDL | ٥ |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | The state of the s |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 25 |
| XYLENES | BDL | 5 5 |
| 7.11.123 | דמש | 5 |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

Lab Number: 6205-8
Sample Designation: M-8
Date analyzed: 2-17-86

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENTRATION | DETECTION LIMIT |
|--|---------------------------------|-----------------|
| | (ug/L) - | (ug/L) |
| CHLOROMETHANE | (ug/L) - BDL | 50 |
| VINYL CHLORIDE | TRACE | 50 |
| CHLOROETHANE | BDL | 25 |
| BROMOMETHANE | BDL | 50 |
| METHYLENE CHLORIDE | BDL | 25 |
| 1,1-DICHLOROETHYLENE | BDL. | 25 |
| 1,1-DICHLOROETHANE | BDL | 25 |
| 1,2-trans-DICHLOROETHYLENE | 380 | 25 |
| CHLOROFORM | BDT. | 25 |
| 1.2-DICHLOROETHANE | Bnt. | 25 |
| 1.1.1-TRICHLOROETHANE | TRACE | ae . |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDT. | 25 |
| VINYL ACETATE | BDI | 50 |
| BROMODICHLOROMETHANE | BDI. | 25 |
| 1.2-DICHLOROPROPANE | BDT. | 25 |
| CARBON TETRACHLORIDE VINYL ACETATE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE BENZENE 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDI. | 25 |
| TRICHLOROETHYLENE | TRACE | 25 |
| BENZENE | BDT. | 25 |
| 1.3-cis-DICHLOROPROPENE | BDT. | 25 |
| 1,1,2-TRICHLOROETHANE | BDT. | 25 |
| 2-CHLOROETHYL VINYL ETHER | BDT. | 25 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDI. | 25 k 25 |
| BROMOFORM | BDI | 25 |
| TETRACHLOROETHYLENE | TRACE | 25 |
| 1.1.2.2-TETRACHLOROETHANE | BDL | 25 |
| | BDL | 25 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDI | 25 |
| ETHYLBENZENE | BDL BDL | 25 |
| | 222 | 25 |
| ACETONE | BDL | 125 |
| CARBON DISULFIDE | BDI. | 25 |
| | BDT. | 125 |
| THF MEK MIBK 2-HEXANONE | BDI. | 125 |
| MIBK | BDI. | 125 |
| 2-HEXANONE | BDI. | 125 |
| STYRENE | BDT | 25 |
| XYLENES | BDL BDL BDL BDL BDL BDL BDL BDL | 25 25 |
| AN X 500000000000000000000000000000000000 | | - J |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

Lab Number: Sample Designation: Date analyzed: 6205-9 Trip Blank 2-17-86

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|---------------|-----------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1.1-DICHLOROETHYLENE | BDL | |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 5 5 5 5 |
| | BDL | š |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL - | Ĕ |
| 1.1.1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| VINYL ACETATE | BDL | 10 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 5 |
| | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROFTHYL VINYL FTHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | ž |
| DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 5 5 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | 222 | J |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 17 12 7 |
| MEK | BDL | 25 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 5 |
| | ~ ~ ~ | J |

BDL = BELOW DETECTION LIMIT

| | Resource Analysts, Incorporated Box 4778 Hampion, NH 03842 (603) 926-7777 |
|--|---|
| Mr. Matt Eichler CEH P.O. Box 4696 | PO # ATF Davidson Date Received: 5/14/86 (0900) Lab Number: 6830 |
| Portsmouth, NH 03801 | Date Reported: May 30, 1986 |
| Attached please find test results for Volatile Specific Conductance. | Organic Compounds, Barium, and |
| | |
| | |
| | |
| | |

Technical Director

LOCATION:

ATF Davidson, Whitinsville, MA

ENGINEERS:

Caswell, Eichler and Hill

SAMPLING DATE:

5/13/86

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME S | STATIC LEVEL TO STEEL CASING | COND, umhos/cr | /TEMP * | рH |
|----------------|----------------|----------|--------|------------------------------------|-------------------|---------|------|
| M-1 | 14' | 1.5" | 1345 | 8.38' | 305 | 25.0 | 7.9 |
| M-2 | 12' | 1.5" | 1356 | 8.83' | 270 | 25.0 | 9.0 |
| M-3 | 10' | 1.5" | 1437 | 7.00' | 150 | 25.0 | 6.9 |
| M-4 | 10' | 1.5" | 1431 | 7.71' | 235 | 25.0 | 7.4 |
| M-5 | 10' | 1.5" | 1425 | 7.42' | 370 | 25.0 | 7.2 |
| M-6 | 10' | 1.5" | 1550 | 7.67' | 195 | 25.0 | 7.6 |
| M-7 | 9.5' | 1.5" | 1555 | 7.12' | 190 | 25.0 | 10.6 |
| M-8 | 9.8' | 1.5" | 1615 | 7.15' | 180 | 25.0 | 9.1 |

Total depths come from the well plans.

 $^{^{\}star}$ The conductivity data was provided by Resource Analysts, Inc. Samples were brought to 25.0 $^{\circ}\text{C}\,.$

| PROJECT CONTACT Math Eichle SAMPLING LOCATION ATE Daxides | v: V. MA | page of | | | | | | |
|---|----------|--------------------------------|--------------------------|-------------------------------------|-----------------------|--------------|------------|-------|
| FICLD IDENTIFICATION 11st each container separately | LAN # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- | FICLD PRESERVATION | BCHARKS/AHAL | AZIZ BCONC | \$100 |
| 5/13/sc M-1 1100 1359 | | Other | Q 6/11 YOAL | Offeld Offeld Onone | carl. | VOA -MF | 1 62 | 4 |
| 0 10 M-2 1100 1412 | | Osolid Oliquid Other | 86/1/ INL | Offeld Offeld Offeld Onone | | | | |
| N= 3 11=1 1544. | | Other | 86/1/ 1 | Offeld Slab Done | | | | |
| 010 M. 4 1100 1523 | | Osolid Oliquid Oliher | O6/1/ ml | O fleld O lab O none | | | | |
| Date 11- 5 1100 1505 | | Scolld Oliquid Other | 86/1/ | Olab Onone | | | | |
| Date M- 6 1100 1723 | | O Solld O Liquid O Other | 86/14 | L O flaid L O lab L O none | | | | |
| Date 111- 7 11mm 1734 | ′ | Solld Elquid Other | OG/1/ | LO Held LO none | | | | |
| 101 M -8 1100 1810 | | Stolld Stigute Other | O6/ A | L S 12b | | | | |
| Bellaguished By: | . d | 114 084 S | Received Dyt | • | , | | Date . | line |
| Relinquished By: | Da | ite Iime | Received for | · Wood | | comorated | 5/14 | 0845 |

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| CHAIN OF CUSTODY DOCUMENTAL | ION | | CLICHI | CEH | | 191 <u>2</u> | o1 <u>'</u> | |
|--|-----------|--------------------------------|-----------------------|---|-----------------------|-------------------|-------------|------|
| PROJECT CONTACT MSH F; ch SAMPLING LOCATION ATF Devides | | | JOB HAMI | - | and | | | |
| FICED SOCKESFICATION 1111 each container separately | LAJ # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- TION | FICLD PRESERVATION | RCHARES/ANA | LAZIZ BEÓNE | 2100 |
| 5/13/86 M-1 1100 1259 | | Other | O 6/1/ ! | O lab O none | HNO3. | Dissola | 13. | · |
| 010 M-2 1140. 1412 | | Other | 86/1/ mL | O field O lab O none | | | | |
| 11s M-3 11se 154 | 1 | O Solld Bliquid Bûther | 86/1/ ml | O I le l d | | | | |
| DIO 11-4 1100 152 | 3. | Solld Oliquid Other | OG/I/ mi | Onene | | | | |
| 011. M-5 11. 150 | <u> </u> | Solld Sliquid Other | 186/1/ 1 | O I ald LO I b LO none | | | | |
| Date 111-6 1100 172: | 3 | O Salld O Liquid O Other | OG/14 m | LO feld LO lab LO none LO fold | | | | |
| Date 111-7 11ae 123 | 1 | Osolld Obther Osolld | 86/1/ | L O lab | | | | |
| 181 M-8 1100 181 | 0 | Stigula Other | 86/14/2 | | | | 4 | |
| dellaquished by: | Dail S | 114 0848 | Received Byt | | | ×. | Date | lias |
| Belinquished By: | Ba | | Received For | Laborator | e Analysis, In | DOS corporated | 5/14 | 0845 |

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| PROJECT CONTACT Matt Exchors | | DASH The MA | | :/HUHBCR | | - | 01 | |
|---|-------|-----------------------------|--------------------------|----------------------------------|-------------------------|------------|-------------|------------|
| FIELD IDENTIFICATION List each container separately | LAT # | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- | FIELD . PRESERVATION | RCHARCS/AN | rraziz scon | CSICO |
| 5/12/86 Tr.70 Black 1100 1800 | | O Solld O Liquid O Other | 0 6/11/ 47 MF | O fleld O lab O none | roof | Va.11 | -PAC2 | <i>;</i> / |
| 5/13/8/b M-1 110 1359 | | Osolld Ollquid Other | | O lab O none | | Spec con | 1 | |
| 0/11 2 1101 1412 | | O Solld Bliquid Other | | 8 lab | | | | |
| Dale 3 1100 1544. | | Osolld Ollquid Other | OG/1/ m | O none | × | | | |
| y 11m 1508 | | Scolld Ollhar | 86/1/ | L O lab L O none | | | | |
| Date 5 time 503 | | Osolid Oliquid. Other | 86/1/ | L O fleld L O lab L O none | | | | |
| Date 6 11as 1733 | | Osolld Oliquid Oother | 06/1/ | LO 110 d LO 120 LO none | | | | |
| 10.16 V 7 11.00 1234 | J. | Solld Sliquid Other | V 8:11.V: | 18 11 | | | = | |
| dellaquished by: | 5 | 14 0845 | Received Byt | • | | | Date | lima |
| Relinquished By: | 78 | ata lima | Received For | 7. W.00 | EN 035 | compreted | 5/14 | 084 |

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| CHAIN OF CUSTODY DOCUMENTATION | | | CLIENI | CEI | | age <u>Y</u> o | - | • |
|--|-----------------|--------------------------------|--------------------------|----------------------------|-----------------------|----------------|--------------|--|
| | , | | ADDRESS : | | | | _ | 1 |
| PROJECT CONTACT Math Fich | ler White | suille MA | | :/NUMBER | Q -t=G | J- | | |
| FIELD IDENTIFICATION List each container separately | LAB # | SAHPLE HATRIX | CONTAINER TYPE/VOLUME | LITAY- | FIELD PRESERVATION | RCHARKS/ANAL | AZIZ BEDNE | 21CD |
| 5/13/86 M-8 11ne 18/0 | • | Onther | OG/T/ mL | O lab | cool: | Spec C. | 3- A | |
| Date Time | | Osolid Oliquid Other | O 6/1/ ml | Ofield Olab Onone | | | | |
| Date line | | 8 Liquid | SG/T/ mL | Offeld Slab Onone | | | | |
| Date Iine | • | Osolld Ollquid Other | OG/1/ mL | Ofield Olab Onone | | | | ······································ |
| Date Time | · | Solld Cliquid Cother | 86/1/ at | O field O lab O none | | | | |
| Date Time | | O Solid O Liquid . Other | 86/1/ mL | Offeld None | , | | | |
| RBODate Time | | Osolid Oliquid Other | OG/ mL OG/1/ mL | O field O none | | | | |
| Cote line | | Solid Liquid Other | 86/1/ ml | O lield O lab O none | | | | |
| Final Agents Age | 5/ ₁ | Y 0845 | Received Byt. | | | | Date | line |
| Relinquished By: | oate | | Recolved for -2. | Wood | | orporated | 021e 5/14 | 1845 |

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Parameter: Barium, dissolved (mg/L) Matrix: Water

Method, Reference: 303C, Standard Methods,

16th Edition

Date Analyzed: 5/20/86

| Laboratory Number | Field Identification | Concentration. |
|-------------------|----------------------|----------------|
| 6830-10 | M-1 | <0.3 |
| 6830-11 | M-2 | <0.3 |
| 6830-12 | M-3 | <0.3 |
| 6830-13 | M-4 | 0.81 |
| 6830-14 | M-5 | 3.6 |
| 6830-15 | M-6 | 0.96 |
| 6830-16 | M-7 | <0.3 |
| 6830-17 | M-8 | 1.3 |

Parameter: Specific Conductance (umho/cm) Matrix: Water

Method, Reference: 205, Standard Methods,

16th Edition

Date Analyzed: 5/20/86

| Laboratory Number | Field Identification | Concentration |
|-------------------|----------------------|---------------|
| 6830-18 | M-1 | 305 |
| 6830-19 | M-2 | 270 |
| 6830-20 | M-3 | 150 |
| 6830-21 | M-4 | 235 |
| 6830-22 | M-5 | 370 |
| 6830-23 | M-6 | 195 |
| 6830-24 | M-7 | 190 |
| 6830-25 | M-8 | 180 |

Lab Number: 6830-1
Sample Designation: M-1
Date analyzed: 5/16/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|---------------|-----------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROEORM | BDL | 5 |
| CHLOROFORM | EDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE -1,1-TRICHLOROETHANE RBON TETRACHLORIDE | BDL | 5 |
| .1,1-TRICHLOROETHANE | BDL | |
| RBON TETRACHLORIDE | BDL | 5 |
| OMODICHLOROMETHANE | BDL | 5 |
| N-DICHLODODODANE | BDL | 5555555 |
| trans-DICHLOROPROPENE | BDL | 5 |
| "LOROETHYLENE | TRACE | 5 |
| 5 | TRACE |) G |
| is-nich apappapene | P Dt | 5 |
| :-TRICHLOROETHANE LOROETHYL VINYL ETHER | BDL | 5 5 5 5 5 |
| OROETHYL VINYL ETHER | 6DL | 5 |
| (OMOCH OROMETHANE | BDL | 5 |
| ROMOCHLOROMETHANE MOFORM | BDL | 5 |
| RACHLOROETHYLENE .,1,2,2-TETRACHLOROETHANE | BDL | 5 5 |
| .,1,2,2-TETRACHLOROFTHANE | BDL | 5 - |
| TOLUENE | BDL | 5 |
| TOLUENE CHLOROBENZENE ETHYLBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 5 |
| - · · · · · · · · · - | BBC | 3 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THE | B.DL | 25 |
| MEK | BDL | 25 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL BDL | 25 25 |
| STYRENE | BDL | |
| XYLENES | BDL | 5 5 |
| SECO. 74 Part School Lands | DIV | 5 |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624 Lab Number: 6830-2
Sample Designation: M-2
Date analyzed: 5/16/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENT | RATION | 9 |
|-------------------------------|---------|--------|--|
| B | REP. 1 | REP. 2 | DETECTION LIMIT |
| | (ug/L) | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | BDL | 10 |
| VINYL CHLORIDE | BDL | BDL | 10 |
| CHLOROETHANE | BDL | BDL | 5 |
| BROMOMETHANE | BDL | BDL | 1.0 |
| METHYLENE CHLORIDE | BDL | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | BDL | 5 |
| CHLOROFORM | BDL | BDL | 5 5 5 5 |
| .2-DICHLOROETHANE | BDL | BDL | 5 |
| 1,1-TRICHLOROETHANE | BDL | BDL | 5 |
| RBON TETRACHLORIDE | BDL | BDL | 5 |
| 10DICHLOROMETHANE | BDL | BDL | 5 |
| DICHLOROPROPANE | BDL | BDL | 5 |
| ~ans-DICHLOROPROPENE | BDL | BDL | 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| PROETHYLENE | BDL | BDL | 5 |
| ₁ E | BDL | BDL | 5 |
| is-DICHLOROPROPENE | BDL | BDL | 5 |
| 2-TRICHLOROETHANE | BDL | BDL | 5 |
| LOROETHYL VINYL ETHER | BDL | EDL | 5 |
| ROMOCHLOROMETHANE | BDL | BDL | 5 |
| JMOFORM | BDL | BDL | 5 |
| <pre>ETRACHLOROSTHYLENS</pre> | BDL | P. DL | 5 🛌 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | BDL | 5 |
| TOLUENE | BDL | EDL | 5 |
| CHLOROBENZENE ETHYLBENZENE | BDL | BDL | 5 |
| ETHYLBENZENE | BDL | EDL | 5 |
| ACETONE | BDL | BDL | 25 |
| CARBON DISULFIDE | BDL | BDL | 5 |
| THF | EDL | EDL | 25 |
| MEK | BDL | BDL | 25 |
| VINYL ACETATE | BDL | BDL | 10 |
| MIBK | EDL | BDL | 25 |
| 2-HEXANONE | P.D.L. | BDL | 25 |
| STYRENE | BDL | BDL | 5 |
| XYLENES | BDL | B.DL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 6830-3
Sample Designation: M-3
Date analyzed: 5/16/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION (ug/L) | DETECTION LIMIT (üg/L) |
|---|----------------------|------------------------|
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | 29 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1 1-DICHLOROFTHYLENE | BDL | 5 |
| 1 1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | 11 | 5 |
| CHLOROFORM | BDL | 5 |
| | EDL. | |
| ',2-DICHLOROETHANE 1,1-TRICHLOROETHANE | BDL | 5 5 |
| | | 5 5 |
| RBON TETRACHLORIDE | E.DL | 2 |
| MODICHLOROMETHANE | BDL | 5 |
| DICHLOROPROPANE | BDL | 5 |
| rans-DICHLOROPROPENE | BDL | 55555555 |
| OROETHYLENE | TRACE | 5 |
| | BDL | 5 |
| 15-DICHLOROPROPENE | BDL | 5 |
| :-TRICHLOROETHANE | B DL | 5 |
| LOROETHYL VINYL ETHER | BDL | 5 |
| ROMOCHL OROMETHANE | BDL | 5 |
| MOFORM | BDL | 5 |
| TRACHLOROETHYLENE | BDL | 5 5 * · |
| .,1,2,2-TETRACHLOROETHANE | BDL | 5 🔭 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE . | EDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | EDL | 5 |
| THF | 8 DL | 25 |
| MEK | E.D.L | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

Lab Number: 6830-4
Sample Designation: M-4
Date analyzed: 5/16/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|-----------------|
| l. | (ug/L) BDL | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | - BDL | 10 |
| VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE | 25 | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| ,1,1-TRICHLOROETHANE | BDL | 5 |
| 'RBON TETRACHLORIDE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1-TRICHLOROETHANE 1RBON TETRACHLORIDE DMODICHLOROMETHANE -DICHLOROPROPANE | B.D.L. | 5 |
| | | 5 |
| trans-DICHLOROPROPENE | BDL | 5 |
| '_OROETHYLENE | BDL | 5 |
| Ę | BDL | 5 |
| 15-DICHLOROPROPENE | BDL | 5 |
| 2-TRICHLOROETHANE LOROETHYL VINYL ETHER ROMOCHLOROMETHANE MOFORM | BDL | 5 5 |
| LOROETHYL VINYL ETHER | BDL | 5 |
| ROMOCHL-OROMETHANE | BDL | 5 |
| MOFORM | BDL | 5 |
| (RACHLOROETHYLENE | B.DL. | 5 |
| ,1,2,2-TETRACHLORGETHANE | BDL | 5 🗝 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | |
| ACETONE | B.DL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | E DL E DL | 25 |
| MEK | BDL | 25 |
| MEK VINYL ACETATE MIBK | | 10 |
| MIBK | P.DL | 25 |
| 2-HEXANONE | * BDL | 25 |
| STYRENE | BDL. | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 6030-5
Sample Designation: M-5
Date analyzed: 5/16/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|-------------------|----------------------------|
| TOLATILL UNGARIOS | (ug/L) | |
| CHLOROMETHANE | BDL | (ug/L) |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 10 |
| BROMOMETHANE | 27 Fig. 27 (2017) | 5 |
| | BDL BDL | 10 |
| METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL BDL | 5 |
| 1,1-DICHLORGE HILENE | BDL BDL | 5 |
| 1 9-trans-DICULOPOSTUVISMS | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| L O-DIOU ODOCIUME | BDL. | 5 5 5 5 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| ,1,1-TRICHLOROETHANE | BDL | 5 |
| 'RBON TETRACHLORIDE | BDL | 5 |
| OMODICHLOROMETHANE | BDL | 5 |
| `-DICHLOROPROPANE | BDL | 5 |
| trans-DICHLOROPROPENE | | 5 5 |
| '.OROETHYLENE | BDL | 5 5 5 5 5 5 |
| Œ | BDL | 5 |
| 15-DICHLOROPROPENE | BDL | 5 |
| 2-TRICHLOROETHANE | BDL | 5 |
| LOROETHYL VINYL ETHER ROMOCHLOROMETHANE | BDL | 5 |
| ROMOCHLOROMETHANE | BDL | 5 |
| MOFORM | BDL | . 5 |
| FRACHLORDETHYLENE | BDL | 5 |
| .,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | e, |
| ACETONE | BDL | 25 |
| CARBON DISULFILE | BDL | 5 |
| THE | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | P.DL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | tor tar tag. | J |

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 6830-6
Sample Designation: M-6
Date analyzed: 5/19/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|---------------|-----------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE | BDL | 10 |
| VINYL CHLORIDE | 76 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | B DL | 10 |
| METHYLENE CHLORIDE | 8 DL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | | 5 |
| CHLOROFORM | B DL | 5 |
| 1,2-DICHLOROETHANE | B.D.L | 5 |
| ,1,1-TRICHLOROETHANE | BDL | 5 |
| RBON TETRACHLORIDE | BDL | 5 |
| MODICHLOROMETHANE | BDL | 5 |
| DICHLOROPROPANE | BDL | 5 |
| :rans-DICHLOROPROPENE | BDL | 5 |
| OROETHYLENE | BDL | 5 |
| _ | BDL | 5 |
| .sDICHLOROPROPENE | BDL | 5 5 |
| -TRICHLOROETHANE | BDL | 5 |
| LORGETHYL VINYL ETHER | BDL | 5 |
| (OMOCHL OROMETHANE | BDL | 5 |
| 10FORM | BDL | 5 |
| FRACHLORGETHYLENE | 12 | 5 |
| ,1,2,2-TETRACHLOROETHANE | BDL | 5 * ' |
| FOLUENE | BDL | 5 |
| CHLOROBENZENG | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | C) E |
| CARBON DISULFIDE | BDL | 25 |
| THE | BDL | 5 |
| MEK | BDL | 25 25 |
| VINYL ACETATE | BDL BDL | 25 |
| MIBK | BDL | 10 25 |
| 2-HEXANONE | BDL | 45 25 |
| STYRENE | BDL | ⊻a 5 |
| XYLENES | BDL | ა 5 |
| | DIA | Ş |

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 6830-7
Sample Designation: M-7
Date analyzed: 5/19/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|-----------------------|
| 20° | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | EDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | B.DL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE ,1,1-TRICHLOROETHANE RBON TETRACHLORIDE | EDL | 5 |
| ,1,1-TRICHLOROETHANE | BDL | 5 |
| RBON TETRACHLORIDE | B.D.L | 5 |
| OMODICHLOROMETHANE | BDL | 5 |
| -DICHLOROPROPANE | EDL | 5 K |
| trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 |
| OROETHYLENE | BDL | Š |
| | BDL | 5 |
| ±S~DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHANE | BDL | 5 |
| TRICHLOROETHANE LOROETHYL VINYL ETHER | B.D.L | 5 5 |
| KOMOCHLOROMETHANE | BDL | 5 |
| | BDL | 5 5 5 |
| RACHLOROETHYLENE | BDL | 5 |
| TRACHLOROETHYLENE ,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| FOLUENE | BDL | 5 |
| CHLÖRÖBENZENE | BDL | 5 |
| FOLUENE CHLÖRÖBENZENE ETHYLBENZENE | B.DL. | 5 |
| | | |
| ACETONE CARBON DISULFIDE THE | BDL | 25 |
| CARBON DISOLFIDE | BDL | 5 |
| | BDL | 25 |
| MEK | EDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK 2-HEXANONE | B.DL | 25 |
| STYRENE | BDL | 25 |
| | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

Lab Number: 6830-8
Sample Designation: M-8
Date analyzed: 5/19/86
Matrix: WATER

| VOLATILE ORGANICS | CONCENTRATION (ug/L) | DETECTION LIMIT |
|---|----------------------|-----------------|
| CHLOROMETHANE | EDL EDL | (ug/L) |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | 600 6DC | 20 |
| CHLOROFTHANE | BDL BDL | 20 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE OHLORIDE | BDL | 20 |
| 1 1-DICHLOROFTHYLENE | BDL | 1.0 |
| 1 1-DICHLOROFTHANE | | 10 |
| 1,2-trans-DICHLOROETHYLENE | BDL 1600 | 10 |
| CHLOROFORM | | 10 |
| 1,2-DICHLOROETHANE | BDL | 1.0 |
| 1,1-TRICHLOROETHANE | BDL | 10 |
| RBON TETRACHLORIDE | BDL | 10 |
| MODICHLOROMETHANE | BDL | 10 |
| DICHLOROPROPANE | BDL | 10 |
| rans-DICHLOROPROPENE | BDL | 10 |
| OROETHYLENE | BDL | 10 |
| .E | 26 | 10 |
| isDICHLOROPROPENE | BDL | 10 |
| 3-TDTONEOROFENE | BDL | 10 |
| 2-TRICHLOROETHANE HLOROETHYL VINYL ETHER | BDL | 10 |
| POMOCHI OPOMETUANE | BDL | 10 |
| ROMOCHLOROMETHANE OMOFORM | BDL | 10 |
| _TRACHLOROETHYLENE | BDL | 10 |
| _,1,2,2-TETRACHLOROETHANE | BDL | 10 |
| TOLUENE | BDL | 10 - |
| CHLOROBENZENE | B.D.L | 10 |
| ETHYLBENZENE | BDL | 10 |
| EINILDENZENE | BDL | 10 |
| ACETONE | BDL | 50 |
| CARBON DISULFIDE | BDL | 10 |
| THF | BDL | 50 |
| MEK | B.D.L. | 50 |
| VINYL ACETATE | BDL | 20 |
| MIBK | BDL | 50 |
| 2-HEXANONE | B.D.L. | 50 |
| STYRENE | BDL | 10 |
| XYLENES | BDL | 10 |
| | | 4. 6/ |

BDL = BELOW DETECTION LIMIT

Lab Number: Sample Designation: Date analyzed: Matrix: 6830-9 TRIP BLANK 5/19/86 WATER

| VOLATILE ORGANICS | CONCENT | RATION | |
|--|---------|--------|-----------------------|
| | REP. 1 | REP. 2 | DETECTION LIMIT |
| | (ug/L) | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | BDL | 10 |
| VINYL CHLORIDE | BDL | BDL | 10 |
| | BDL | BDL | 5 |
| BROMOMETHANE | BDL | BDL | 10 |
| METHYLENE CHLORIDE | BDL | EDL | 5 |
| | BDL | BDL | 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | B.DL | 5 |
| OROFORM | BDL | BDL | 5 |
| -DICHLOROETHANE | BDL | BDL | 5 |
| 1-TRICHLOROETHANE | BDL | BDL | 5 5 5 5 5 |
| N TETRACHLORIDE | BDL | BDL | 5 |
| TCHLOROMETHANE | BDL | BDL | 5 |
| HLOROPROPANE S-DICHLOROPROPENE JROSTHYLENE | BDL | BDL | 5 5 5 5 5 |
| -ST-DICHLOROPROPENE | BDL | BDL | 5 |
| JROETHYLENE | BDL | BDL | 5 |
| .NE | BDL | BDL | , 5 |
| :is-DICHLOROPROPENE | | BDL | 5 |
| 2-TRICHLOROETHANE | BDL | EDL | 5 |
| HLOROETHYL VINYL ETHER | BDL | BDL | 5 5 5 |
| .ROMOCHLOROMETHANE | | BDL | 5 |
| OMOFORM | BDL | 8DL | 5 ~ . |
| ETRACHLOROETHYLENE | EDL | EDL | 5 5 |
| 1,1,2,2-TETRACHLOROETHANE | | EDL | 5 |
| TOLUENE | BDL | BDL | 5 |
| CHLOROBENZENE | BDL | B.DL | 5 |
| ETHYLBENZENE | BDL | BDL | 5 |
| ACETONE | BDL | BDL | 25 |
| CARBON DISULFIDE | BDL | BDL | 5 |
| THE | BDL | 8.DL | 25 |
| WEK | EDL | BDL , | 25 |
| VINYL ACETATE | BDL | BDL | 1.0 |
| MIBK | BDL | BDL | 25 |
| 2-HEXANONE | BDL | BDL | 25 |
| STYRENE | BDL | BDL | 5 |
| XYLENES | BDL | EDL | 5 |
| | | | |

BDL = BELON DETECTION LIMIT METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

| Resource Analysts, Incorporat | ea | l |
|-------------------------------|----|---|
|-------------------------------|----|---|

Box 4778 Hampion, NH 03842

(603) 926-7777

T0:

Mr. Matt Eichler Caswell, Eichler & Hill P.O. Box 4696 Protsmouth, NH 03801 PO # ATF Davidson

Date Received: 8/7/86 (815)

Lab Number: 7472

Date Reported: 8/20/86

Date Reissued: 10/13/86

Attached please find test results for Volatile Organic Compounds and Barium.

h

Date

10/13/86

Technical Director

LOCATION:

ATF DAVIDSON, WHITINSVILLE, MA

ENGINEERS:

Caswell, Eichler and Hill, Inc.

SAMPLING DATE:

8/6/86

| WELL NUMBER | TOTAL DEPTH | DIAMETER | TIME | STATIC LEVEL TO STEEL CASING | COND/TE umhos/cm | °C | Нс |
|----------------|----------------|----------|------|------------------------------------|------------------|------|-------|
| M-1 | 14" | 1.5" | 1100 | 8.67' | 338 | 17.5 | 7.87 |
| M-2 | 12' | 1.5" | 1045 | 8.83' | 152 | 18.5 | 8.96 |
| M-3 | 10' | 1.5" | 1330 | 7.00' | 275 | 21.0 | 6.03 |
| M-4 | 10' | 1.5" | 1225 | 7.79' | 270 | 22.0 | 6.78 |
| M-5 | 10' | 1.5" | 1125 | 7.65 | 418 | 20.5 | 7.41 |
| M-6 | 10' | 1.5" | 1415 | 7.60' | 230 | 21.5 | 6.91 |
| M-7 | 9.5' | 1.5" | 1135 | 7.04' | 210 | 19.0 | 10.39 |
| M-8 | 9.8' | 1.5" | 1435 | 7.48' | 208 | 20.0 | 7.06 |

Total depths come from the well plans.

spige CHAIN OF CUSTODY DOCUMENTATION CEH CL ICHT ADDRESS' DENTER WENNESTING JOB HAME/HUMBER PROJECT CONTACT Matt Fichler SAMPLE COLLECTORY TO SAMPLE AMPLE COLLECTORY TO THE HOLLS OF THE HOLLS OF THE HOLLS OF THE SAMPLE COLLECTORY TO THE SAMPL FILLD IDENTIFICATION LAB # CONTAINER FILTRA-REMARKS/ARALYSIS REQUESTED SAMPLE FIELD TYPE/VOLUHE 11st each container separately PRESCRVATION HATRIX TION रीकिरिक 0 P/ = 50 ml 0 (1014 Osolld mt O lab 00° O 6/ Ollguld Date ml O none 11ae 1155 O 6/1/ Other OP/ ZSOAL O field Osolld 152. Q G/ at O lab SOW Ollquid O 6/1/ 11mc 1045 mt O none Other Dale OP/ - Soul O Held Osolld 86/1/ ml & lab C095 Ollquld Olher 11me 1715 OP/ 250 at O field Osolid 1338 OGI al O lab OLlquid C_{22} 1100 line OG/1/ mt O none Date Other OPT-250ml Ollold Osolld 6.03 CSC^2 Qe/ Ollquid at O lab 1348

line al (none date Other O6/1/ OP/250 mt O Hold OG/1/ mt O lab OG/1/ mt O none Solid Sliquid Other 719.5" 2.70 1225 00 220 Received Byt. Date line Date Ilas Relinquished By: Received for Laboratory By: Ilac Date Rallnquished By: Date Ties

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| CHAIN OF CUSTODY DOCUMENTATION | | | | CLICHI C | E14 | | ige <u> </u> | · _5 | |
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| 1 | | • | • | 7, | 174.1 A.1. | W. S. S. S. S. S. S. S. S. S. S. S. S. S. | NEO HO | 721 | |
| PROJECT CONTACT Moth Fichles | | | | JOB HAME | /HUHBCR | | 7 | | |
| SAMPLING LOCALION ATT Described | 12/12/ | ritions | ابطان | 3 ympre correc | 10R 10. | 10 Buch | ענו | TI. | |
| FIGLO IDENTIFICATION List each container separately | LAN # | SAHPLE | | CONTAINER TYPE/VOLUME | FELTRA- FION | FIELD . PRESCRYATION | REHARKS/ANAL) | ISIS BEONES | 160 |
| c/6/86 | | O Solid O Liquid | | | O fleld O lab | <u>ر</u> . | N HO | 1/1 | |
| Date M -> 5 11ne 1200 | | Quiner | IC | 06/1/ ml | O none | 0000 . | | 111 / | |
| Date M - 5 11no 1125 | | Osolld Other | | @ P/ ZSORL O G/I/ &L O G/I/ &L | O lield O lab O none | G0GJ | ٥() | 2015 | 117 |
| Pule N1-6 11mg 1423 | | O Solld Pliqui Olher | | り P / Z S O m L) G / T / m l) G / T / m l | O Held O lab O none | تكحدث | PH 6.0 | 7/ | |
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| 11ne 12-10 | | Q Solld Q Liqui | d | 06/ 250ml | | Cocl | CH 47 | | |
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| A AND RESIDENCE OF THE PROPERTY OF THE PROPERT | | - | AND THE PERSON NAMED IN | | | | | _ |
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| CHAIN OF CUSTODY DOCUMENTATION | | | CLICHT S | EΗ | p | age <u>5</u> of | 5 | • |
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| , and the second | | • | 7 | DX 120 | 101.1N. 11 | DH DEKO | 71 | |
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| PROJECT CONTACT MOTHER FICKION | | | | E/HUHBER | 21 | 1.00 | - | |
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| • | | i i | T COLLEGE | 108 33 23 | | | | |
| LIEFD IDENTILICATION | LAB # | ZYHBLE | CONTAINER | FILTRA- | FICLD | RCHARES/ARALY | 212 SCONE | 2160 |
| 11st each container separately | | HATRIX | TYPE/VOLUNE | KOII | PRESERVATION | | | |
| -6/6/86 | | O 2011q | OP/ ml | | _ | YOR - E | 1-A 6 | 74 |
| Oale M - 1 1100 | | Ollquid Ollher | Q 6/11 - Qal | | Cross. | , | | |
| | | Osolla | | Olleld | | | | |
| 1 | 1 | Oliquid | 06/ | O lab | · . | | | |
| Date M - 2 11me 1055 | | Other | 801140 | do none | cons | | <u> </u> | |
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| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 1 | Olher Olher | 8 6/1/ 40ml | S 1ap | (Dick) | | | |
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| 046 -M- 4 1100 1240 | • 1 | Quher | @6/11/20a | | (35K) | | 1 | |
| | | Q Solld | OP/ 4 | LO Held | | | | |
| 010 M-5 1100 1700 | | Clantq | 86/11/10 | r O rap | 1000 | | - | |
| 0010 NI - 3 1100 1700 | | O Solid | 86/11 40. | I O Held | COC3/ | - | | |
| 1 | l l | OLiquid. | 8°/ | 1 0 1 1 1 | | | | |
| 0.1. M - 10 11ac 1423 | | Other | 100/11 40m | L S none | (000) | | | |
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| 1450 | | [Other | Gell 74 | or @ uous | 1000 | <u> </u> | <u> </u> | |
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| NA (1) must | 18/1 | 2 08/5 | | | į. | | | |
| Relinquished By: | Dal | | Received For | Laborator | v 8v: | | Dale , | Illac |
| | , | - ''** | | . (1) | 1. 1 | J | 8/- | 1 |
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| SAMPLING LOCALIONATE DESTINA | . (3.8) 11 | 10.40x 20 | CZWALL COLLE | 108 (1) | - (C15) X | Introduction |
| LIEFD TOCKLILICATION | LAB # | SAMPLE | CONTAINER | LIFIBY- | LIEFO | REHARKS/ANALYSIS REQUESTED |
| list each container separately | | HATRIX | TYPE/VOLUHE | 110X | PRESERVATION | • |
| othe blank the PIN | | Osolld | OP/ BL | | 0 | VOA-1-04/24 |
| otie plank Has PM | | Llquld | OG/ mt | Q lab | cool. | VIII. |
| Ofte blank line on | | Quiter | O C/11/40 ml | none | | |
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| 8/6/8/1 -1 | | Olher Olher | | Onone | 9000 | 1 |
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| one M-5 1100 1348. | | Other | | O lab | 1 | |
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| Relinquished By: | Da | te . 11=a | Recelyed for | Laborator | y By: | Date , 11me |
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| CHAIN OF CUSTODY DOCUMENTATION | | | | E 77 | Р | age <u>5</u> 01_ | |
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| PROJECT COHIACE MOTH Fichle | ٧ | | | HUHBER. | | 00 | |
| STANDED STANDON DUINES | in D | JIIVENITHI | BYHELE COLLE | C10815 | Linkou Kil | | |
| LICED IDCMILLICATION | LAR # | SAMPLE . | CONTAINER | FILTRA- | FICLD | BCHARKS/ANALYST | |
| ilat each container separately | LA # | HAIRIX | TYPE/VOLUME | KOIT | PRESERVATION | REPORTED AND LESS . | 3 10003105 |
| 616/86 | | Osolid | @ P/ 1725 ml | 11010 | ECWH | Dieser low 8 | Travilla |
| 1 2 5 | | @Liquid | Q6/ at | U lab | Sow. | | |
| 01te N - 6 11ne 450 | | Osolid | O 6/1/ mt | O none | 0.50 | | |
| | | Oliquid | OG/ | O lab | | | |
| Orte line | | Other | | O none | | | |
| · | 1 | 050114 | 21/ | O leld | | | |
| Pale | | 8 Liquid | | Done | | | |
| | | Qsolld | OP/ m1 | Oliold | | | |
| 10.11 | | OLIquid | OC/ | | 1 | | |
| Date line | | Osolld | OG/1/ m | L O none | · | | |
| 1 | | Stiguld | 1861 | and the same of th | 1 | | |
| Date . lime | | Other | | L O none | | | |
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| Date line . | _ | Other | | LO none | - | - | ***** |
| | | Sliquid | 8:4 | L S lab | | | |
| Date | حدود | | <u>Q6/1/</u> | | | | |
| Bollaguished by: | - Dat | * / 1 Time | Received By | i. | | 0. | ale Ine |
| - Wesantes | 8 | 2 08/5 | | | | | |
| Relinquished By: | Dat | ie į line | Redelved Sd | r Laborator | y By: | 0 | 115/ 11100 |
| | | | Lai | wii (| Oper L. | _ 18 | 0/2 000 |
| | | | 1 () | Resour | ce Analysts, In | corporated | / / 20. |

Parameter: Barium (mg/L)
Method: 303C

Matrix: Water Date Analyzed: 8-11-86

| Field Identification | Laboratory Number | Concentration | | |
|----------------------|-------------------|---------------|--|--|
| M-1 | 7472-10 | <0.3 | | |
| M-2 | 7472-11 | <0.3 | | |
| M-3 | 7472-12 | <0.31 | | |
| M-4 | 7472-13 | 0.41 | | |
| M-5 | 7472-14 | 2.1 | | |
| M-6 | 7472-15 | 0.51 | | |
| M-7 | 7472-16 | <0.3 | | |
| M-8 | 7472-17 | 0.79 | | |

Lab Number: 7472-1
Sample Designation: M-1
Date Analyzed: 8-10-86
Matrix: Water

| | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|--|--|--------------------------------------|
| | | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | BDL | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE | BDL | 5 |
| | 1,1-DICHLOROETHYLENE | (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | 5 |
| | 1,1-DICHLOROETHANE | BDL | 5 |
| | CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| | CHLOROFORM | BDL | 5 |
| | CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| } | 1,1,1-TRICHLOROETHANE | BDL | 5 |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 5 5 5 5 5 |
| | 1,2-DICHLOROPROPANE | BDL | 5 |
| | 1,3-trans-DICHLOROPROPENE | RDI. | 5 |
| | TRICHLOROETHYLENE | BDL | 5 |
| | BENZENE | BDL | 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | 1,1,2-TRICHLOROETHANE | BDL | 5 5 5 5 5 5 5 5 |
| | 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | BROMOFORM | BDL | 5 |
| | TETRACHLOROETHYLENE | BDL | 5 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 5 . |
| | TOLUENE | BDL | 5 |
| | CHLOROBENZENE | BDL | 5 |
| | ETHYLBENZENE | BDL | 5 |
| | | | * - * |
| | ACETONE | BDL | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | 25 |
| | VINYL ACETATE | BDL BDL BDL | 10 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL BDL | 25 |
| | STYRENE | BDL | 5 |
| | XYLENES | BDL | 5 |
| | | | |

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 7472-2
Sample Designation: M-2
Date Analyzed: 8-10-86
Matrix: Water

| | CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | CONCENTRATION | DETECTION LIMIT |
|---|--|-----------------|-----------------------|
| | | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | BDL | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE | NO USEABLE DATA | 5 |
| | 1,1-DICHLOROETHYLENE | BDL | 5 5 |
| | 1,1-DICHLOROETHANE | BDL | 5 |
| | 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| | CHLOROFORM | BDI. | 5 |
| | CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARRON TETRACHLORIDE | RDI. | 5 |
| 1 | 1.1.1-TRICHLORORTHANE | BDI. | 5 |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | | BDL | 5 |
| | 1.2-DICHLOROPROPANK | BDL | 5 |
| | BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 |
| | TRICHLOROETHYLENE | BDL | 5 |
| | RENZENE | DDT | 5 5 |
| | 1.3-cis-DICHLOROPROPENE | BDL | 5 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | 2-CHLORORTHYL VINVL ETHER | BDL | 5 |
| | DIBROMOCHIOROMETHANE | BDL | 5 |
| | DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 5 5 5 |
| | TETPACHIOPOPTUVI PND | TUL | 5 |
| | TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | TOLUENE | | 5 |
| | CHLOROBENZENE | BDL | 5 |
| | ETHYLBENZENE | BDL | 5 |
| | EIRILDENZENE | BDL | 5 |
| | ACETONE | NO USEABLE DATA | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | 25 |
| | VINYL ACETATE | BDL | 10 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL | 25 |
| | STYRENE | BDL | 5 |
| | XYLENES | BDL | 5 |
| | | | • |

BDL = BELOW DETECTION LIMIT

Lab Number: 7472-3
Sample Designation: M-3
Date Analyzed: 8-10-86
Matrix: Water

| | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|--|---------------|-----------------|
| | | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | 12 | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| | 1,1-DICHLOROETHYLENE | BDL | 5 |
| | 1,1-DICHLOROETHANE | BDL | 5 |
| | 1,2-trans-DICHLOROETHYLENE | 31 | 5 |
| | CHLOROFORM | BDL | 5 |
| | 1,2-DICHLOROETHANE | BDL | 5 |
| 1 | 1,1,1-TRICHLOROETHANE | Trace | |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | BROMODICHLOROMETHANE | BDL | 5 5 5 |
| | 1,2-DICHLOROPROPANE | BDL | 5 |
| | 1,3-trans-DICHLOROPROPENE | BDL | 5 5 |
| | TRICHLOROETHYLENE | BDL | 5 |
| | BENZENE | BDL | 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| | 1,1,2-TRICHLOROETHANE | BDL | 5 |
| | 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | DIBROMOCHLOROMETHANE | BDL | 5 |
| | BROMOFORM | BDL | 5 |
| | TETRACHLOROETHYLENE | BDL | 5 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | TOLUENE | BDL | 5 |
| | CHLOROBENZENE | BDL | 5 |
| | ETHYLBENZENE | BDL | 5 |
| | CONTRACTOR TO COMPANIA OF THE CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACTOR TO CONTRACT | | 3 |
| | ACETONE | BDL | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | 25 |
| | VINYL ACETATE | BDL | 10 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL | 25 25 |
| | STYRENE | BDL | |
| | XYLENES | BDL | 5 5 |
| | ancora, m. m. m. i. i. m. | D D D | D |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

Lab Number: 7472-4
Sample Designation: M-4
Date Analyzed: 8-12-86
Matrix: Water

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|-------------------|----------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | (ug/L) BDL BDL 12 | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | 12 | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| 1,1,1-TRICHLORORTHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BKNZKNK | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 5 5 5 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | - |
| ACETONE CARBON DISULFIDE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | . 5 |
| | | • |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 7472-5
Sample Designation: M-5
Date Analyzed: 8-10-86
Matrix: Water

| VOLATILE ORGANICS | | DETECTION LIMIT |
|---|--------|---|
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL ' | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 ' |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1,1,2-TRICHLOROBTHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | BDL | 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| BTHYLBENZENE | BDL | 5 |
| | | _ |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | - 5 |
| XYLENES | BDL | 5 |
| | | |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 7472-6
Sample Designation: M-6
Date Analyzed: 8-12-86
Matrix: Water

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------------|-----------------|
| CHLOROMETHANE | (ug/L) BDL 80 | (ug/L) |
| VINYL CHLORIDE | 80 | 50 |
| The state of the s | DDT | 50 |
| DROMOMERUANE | BDL | 25 |
| DEMONDED AND AND AND AND AND AND AND AND AND AN | BDL | 50 |
| DIGUIADAEMUVIENE | BDL | 25 |
| 1,1-DICHLOROETHYLENK | BDL | 25 |
| CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 25 |
| 1,2-trans-DichLorokTHYLKNE | 50 | 25 |
| CHLOROFORM | BDL | 25 |
| 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 25 |
| 1,1,1-TRICHLORORTHANE | Trace | 25 |
| · CARBON TETRACHLORIDE | BDL | 25 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | 25 |
| 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 25 |
| 1,3-trans-DICHLOROPROPENE | BDL | 25 |
| TRICHLORORTHYLENE | Trace | 25 |
| BENZENE | BDL | 25 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 25 |
| 1,1,2-TRICHLOROETHANE | BDL | 25 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 25 |
| DIBROMOCHLOROMETHANE | BDL | 25 |
| BROMOFORM | BDL | 25 |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | Trace | 25 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 25 |
| TOLUENE | BDL | 25 |
| CHLOROBENZENE | BDL | 25 |
| ETHYLBENZENE | BDL | 25 |
| | | 20 |
| ACRTONE | BDL | 125 |
| CARBON DISULFIDE | BDL | 25 |
| THF | BDL | 125 |
| MEK | BDL | 125 |
| VINYL ACETATE | BDL | 50 |
| MIBK | BDL | 125 |
| 2-HEXANONE | BDL | 125 |
| STYRENE | BDL | 25 |
| XYLENES | BDL | 25 25 |
| 1000 A 1 (Time A | BUL | 25 |

"Trace" denotes probable presence below listed detection limit. Detection limit raised due to the foaming properties of the sample.

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 7472-7
Sample Designation: M-7
Date Analyzed: 8-10-86
Matrix: Water

| | | | | | 40 |
|--|----|---------------|-----|------------------|-------|
| VOLATILE ORGANICS . | | CONCENTRA | | DETECTION | LIMIT |
| | | (ug/L) | | (ug/ | L) |
| CHLOROMETHANE | | (ug/L) BDL | | 10 | |
| VINYL CHLORIDE | | BDL | | 10 | |
| CHLOROETHANE | | BDL | | 5 | |
| BROMOMETHANE | | | | 10 | |
| MRTHYLENE CHLORIDE | NO | USEABLE D | ΔΤΔ | 5 | |
| VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | | BDL | nin | 5 | |
| 1 1-DICHLORORTHANE | | BDL | | 5 | |
| 1 2-trans-DICUIADAETUVIDAD | | | | 5 | |
| CHLOROFORM | | BDL | | 5 | |
| 1 C-DICULODORMULUR | | BDL | | 5 | |
| 1,2-DICHLOROETHANE | | BDL | | 5 | |
| 1,1,1 IMIONDONOBIHAND | | BDL | | 5 | |
| CARBON TETRACHLORIDE | | BDL | | 5 5 | |
| BROMODICHLOROMETHANE | | BDL | | 5 | |
| 1,2-DICHLOROPROPANE | | BDL | | 5 | |
| 1,3-trans-DICHLOROPROPENE | | BDL | | 5 | |
| TRICHLOROETHYLENE | | BDL | | 5 | |
| BENZENE | | BDL | | 5 | |
| 1,3-cis-DICHLOROPROPENE | | BDL | | - 5 | |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | | BDL | | 5 | |
| 2-CHLOROETHYL VINYL ETHER | | BDL | | | |
| DIBROMOCHLOROMETHANE | | BDL | | 5 5 5 5 | |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | | BDL | | 5 | |
| TRTRACHLORORTHYLENE | | BDL | | | |
| 1,1,2,2-TETRACHLOROETHANE | | BDL | | | |
| TOLUENE | | BDL | | 5 | • |
| CHLOROBENZENE | | | | 5 | |
| ETHYLBENZENE | | BDL | | 5 | |
| BIBILDENZENE | | BDL | | 5 | |
| ACETONE | NO | USEABLE D | מתא | 0.5 | |
| CARBON DISULFIDE | NO | | AIA | 25 | |
| THF | | BDL | | 5 | |
| MEK | | BDL | | 25 | |
| VINYL ACETATE | | BDL | | 25 | |
| MIBK | | BDL | | 10 | |
| | | BDL | | . 25 | |
| 2-HEXANONE | | BDL | | 25 | |
| STYRENE | | BDL | | 5 | |
| XYLENES | | BDL | | 5 | 4 |
| | | | | 1. | |

BDL = BELOW DETECTION LIMIT
METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: 7872-8
Sample Designation: M-8
Date Analyzed: 8/12/86
Matrix: Water

| | VOLATILE ORGANICS | CONCENTRATION (ug/L) BDL 220 BDL | DETECTION LIMET |
|------|---|----------------------------------|-----------------------|
| | | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | 220 | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BUL | 10 |
| | METHYLENE CHLORIDE | BDL | 5 |
| | 1,1-DICHLOROETHYLENE | FDL | š |
| | 1.1-DICHLOROETHANE | BDL | 5 |
| | VINYL CHLORIDE CHLOROETHANE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | 720 | <u>.</u> |
| | CHLOROFORM | BDL | 5 5 5 5 |
| | 1.2-DICHLOROETHANE | BDL | 5 |
| | CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARRON TETRACHLORIDE | BDL | 5 |
| ١ | CARBON TETRACHLORIDE | BDL | 5 |
| ě | BROMODICHLOROMETHANE | BDL | |
| g ev | 1.2-DICHLOROPROPANE | BDL | 2 |
| | 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 3 = |
| | TRICHLOROETHYLENE | 15 | 5 5 5 5 5 |
| | RENZENE | D D I | 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| | 1.1.2-TRICHLOROFTHANE | BDL | 5 |
| | 2-CHIOROFTHYL VINYL FTHER | BDL | 5 |
| | DIBROMOCHLOROMETHANÉ | BDL | ວ ສ |
| | DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 |
| | TETEACUIODOCTUVICAS | BDL | 5 |
| | 1,1,2,2-TETRACHLOROETHANE | RDT | 5 |
| | TOLUENE | BDL | 5 |
| | CHLOROBENZENE | BDL | 5 5 5 5 5 5 5 5 5 |
| | ETHYLBENZENE | BDL | 5 5 |
| | LINIEDENZENE | BDL | 5 |
| | ACETONE | BDL | 6= |
| | CARBON DISULFIDE | BDL | 25 |
| | THE | BDL | 5 |
| | MEK | | 25 |
| | VINYL ACETATE | BDL | 25 |
| | MIBK | BDL | 10 |
| | 2-HEXANONE | BDL | 25 |
| | STYRENE | BDL | 25 |
| | XYLENES | BDL | ā |
| | ALLENES | RDT | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Lab Number: Sample Designation: Date Analyzed: Matrix: 7472-9 Trip Blank 8-12-86 Water

| VOLATILE ORGANICS | | DETECTION LIMIT |
|--|--------|-----------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLORORTHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 5 5 5 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROMODICHLOROMETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 5 5 |
| 1,1,2-TRICHLOROETHANE | BDL | - 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL. | |
| DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE | BDL | 5 5 5 5 |
| BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | | ū |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: EPA 600/4-82-057 METHOD 624

Complete

ADDITIONAL M-8 INVESTIGATIONS

ATF/DAVIDSON ARCADE FACILITY

WHITINSVILLE, MASSACHUSETTS

Submitted to:
WHITE CONSOLIDATED INDUSTRIES
COLUMBUS, OHIO

Prepared by:

Caswell, Eichler and Hill, Inc. Portsmouth, New Hampshire

March 1987

CEH Caswell, Eichler and Hill, Inc.

GEOLOGY HYDROLOGY GEOPHYSICS

Portsmouth, New Hampshire West Topsham, Vermont Augusta, Maine P.O. Box 4696 Portsmouth, NH 03801 TEL. (603) 431-4899

March 25, 1987

White Consolidated Industries, Inc. 300 Phillippi Road Columbus, Ohio 43228

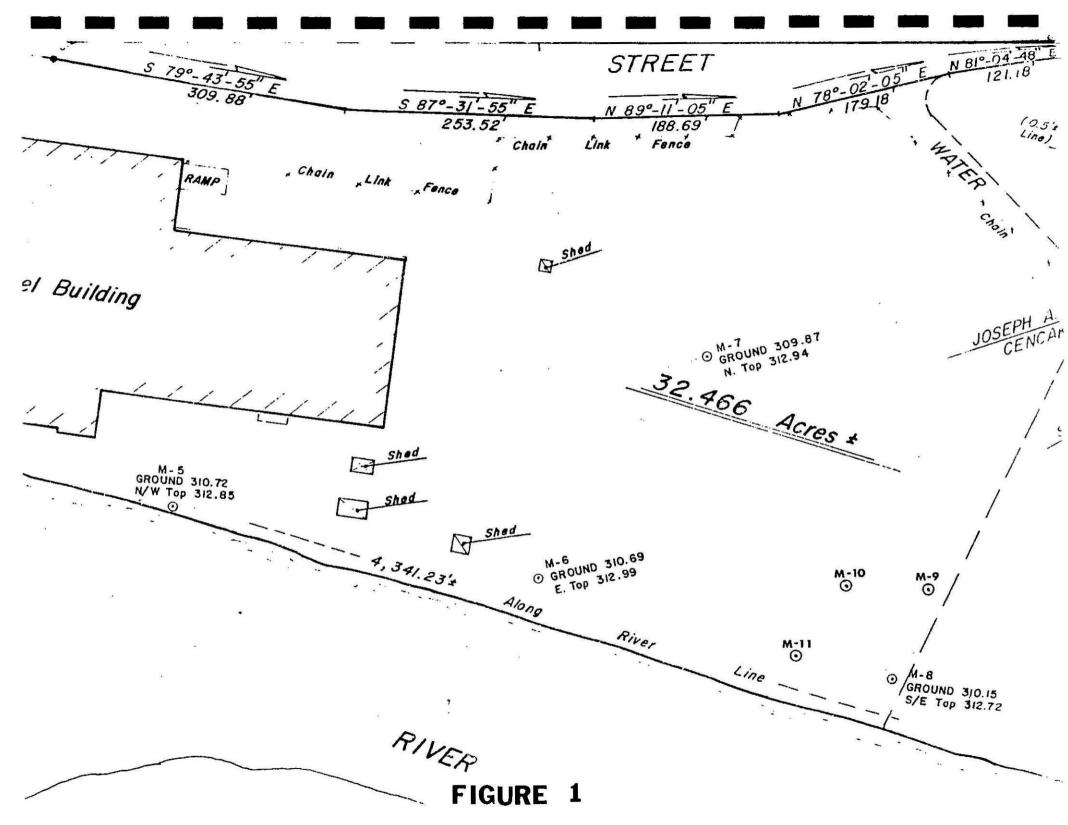
Attn: Mr. Daniel Marques, P.E.

Re: Additional Monitoring Well Installation, Soil Sampling and Analysis, and Groundwater Sampling and Analysis at the ATF/Davidson Arcade Facility, Whitinsville, Massachusetts

Dear Dan:

Consistent with the agreements reached at our November 1986 meeting with Ms. Carol de Groot of the Massachusetts Department of Environmental Quality Engineering (DEQE), we designed an additional monitoring and sampling program in the vicinity of monitoring well M-8 at the Arcade. On December 16, 1986 we met with Carol, reviewed the work plan, and obtained her approval to proceed. The scope of work consisted of installing and developing three additional monitoring wells (M-9, M-10 and M-11) at the site, collecting soil samples above and below the water table at the new well locations, and collecting groundwater samples from the new wells and existing wells M-6. M-7 and M-8. The wells were to be constructed of 12 inch, flush joint, schedule 40, PVC. Five feet of ten-slot screen was to be placed at and ... below the water table, sand packed and isolated by a bentonite seal. Solid PVC riser was to continue from the top of the screen to above land surface. The wells were to be pumped until free of fines. The soil and groundwater samples were to be analyzed for volatile organic compounds (EPA-624) by GC/MS method. The overall thrust of the additional work was to determine if the contamination observed at M-8 is localized, or emanating from an hydraulically upgradient location.

On December 22, 1986, a CEH drilling, well construction and sampling crew under the supervision of CEH principal Matthew F. Eichler III mobilized to the site and completed all the necessary field work. Using a General 440 portable power auger unit, the wells were constructed to specification. The augers were thoroughly cleansed with deionized water and methanol between borings. Soil samples were collected from above and below the water table, placed in air-tight double plastic bags, and stored in an ice chest for transport to Resource Analysts, Inc. for laboratory analysis. Soil samples



were noted to be the same coarse grained foundry fill as was observed during earlier well installations. Each well was pump developed for one hour using a peristaltic pump and dedicated polyethylene tubing. Each well produced a continuous flow of groundwater, and was noted to be clear of fines after 2-5 minutes. Groundwater samples were taken with dedicated teflon bailers and teflon coated stainless steel cable. The samples were immediately packed in ice for transport to the laboratory.

As seen on Figure 1, the new wells (M-9, M-10, M-11) were positioned in radial fashion around the hydraulically upgradient area surrounding M-8. Each well is approximately 100 feet from M-8 and its adjacent counterpart. Laboratory analyses of the soil and groundwater samples are contained in Appendix A. As these data indicate, the upgradient area surrounding M-8 is essentially clean. Only trace and low levels of the contaminants (48 μ g/1 Tetrachloroethylene) found in M-8 are observed in the M-9 groundwater sample, and none were found in M-10 or M-11. The soil samples were also nearly devoid of any contaminants found in M-8. An extremely low level of Tetrachloroethylene (1.2 μ g/g) was reported in the M-9 sample. Similarly, minute levels of Toluene (0.6-4.8 μ g/g) were also reported in each soil sample.

Analysis of these data lead us to conclude that the contamination historically observed at M-8 is characteristic of a localized zone of groundwater degradation. In that groundwater and the contaminants are obviously flowing toward, and being diluted by the adjacent river, no emergency health hazard appears to exist.

We hope these additional analyses will prove helpful to you and the DEQE. Please call should you have any questions or additional needs.

Very truly yours,

Caswell, Eichler and Hill, Inc.

Matthew F. Eichler III

Principal

MFE/amk

APPENDIX A

WATER QUALITY DATA

| Resource Analysts, Incorpor | ratea |
|-----------------------------|-------|
|-----------------------------|-------|

Box 4778 Hampion, NH 03842

(603) 926-7777

TO:

Mr. Matt Eichler Caswell, Eichler, & Hill P.O. Box 4696 Portsmouth, NH 03801

PO #

ATF Davidson

Date Received: 12/23/86 (1300

Lab Number:

8593

Date Reported: 1/13/87

Attached please find test results for Volatile Organic Compounds.

Technical Director

| CHAIN OF CUSTODY DOCUMENTATION |
|--------------------------------|
|--------------------------------|

CLIENT CASWELL EICHLER & HILL INC. P.O. BOX ADDRESS 2 PORTSMOUTH , N.H. 03801 ATF/DAVIDSON

JOB NAME/HUMBER

PROJECT CONTACT

MATT PICILICO:

| SAMPLING LOCATION ATT DAVIDSON WHITINSVILLE MASAMPLE COLLECTOR MATT EICHCER | | | | | | | | |
|---|-----------|---------------------------------|--------------------------|--------------------------------------|------------------------|--------------|-------------|------|
| FICLD IDENTIFICATION List each container separately | WI. | SAMPLE MATRIX | CONTAINER TYPE/VOLUME | FILTRA- | FIELD PRESERVATION | RCHARKS/AHAI | A212 FEONE; | STED |
| B-11 ABOVE WATER TABLE Date 12/28/86 Time 3:00 PM | 8593-I | Osolid Oliquid Other | OG/11 bas | Offeld Offeld Offeld Offeld | | (PA 6 | 9(1 | _ |
| B-11 BELDEN WATER TABLE Date 12/22/86 TIME 3:00 PM | a- | O 50114 | 86/ AL | O fleld D lab O none | · | | | - |
| B-9 ABOVE WATER TABLE Date 12/22/86 1100 PM | 3 | Solid Stiquid Other | 06/. ml | O field O lab O none | | | | |
| B-10' ABOUE WATER TABLE Date 12/22/86 Time 2:00 PM | .4 | Osolid Oliquid Other | OF/ OG/ OG/T/ | D leld O leb LO none | | | | |
| B-10 BELOW WATER TABLE Date 12/22/86 Time 2:00 PM | 5 | Solld Ollquid Other | 86/1/ | l O field L O lab L O none | | | | |
| Date Time | | O Solld O Liquid. O Other | 86/1/ | L O field L O lab L O none | | | | |
| Date Time | | Salid Liquid - Other | 86/1/ | r O lap | | | | |
| . Date Time | | Solld Liquid Other | OG/ | L O Held L O lab L O none | | | | |
| Rollinguished by: Sull III. | Date /2/2 | 11me 13/81 12:53 | Received Byt | • | • | | Date | 11. |
| Relinquished By: | Dat | e fine | Received For | | By: Ce Analysis, In | corporated | 10/23/36 | 116 |

Lab Number: 8593-1
Sample Designation: B-11 Above Water Table
Date Analyzed: 1/2/87
Matrix: Solid

Results expressed on a dry (103 degrees C) basis.

| VOLATILE ORGANICS | CONCENTRATION (ug/g) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | DETECTION LIMIT |
|---|--|-----------------|
| VOLATILE ORGANICS | (na/a) | (ug/g) |
| AUT ODOURMULUE | 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 1 |
| CHLOROMETHANE VINYL CHLORIDE | RDI | î |
| CHLOROETHANE | BDL | .5 |
| CHLORUKTHANK | 144 | i |
| BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | 144 | .5 |
| METHYLENE CHLORIDE | D D T | .5 |
| 1, 1-DICHLORORTHILENE | BDL | .5 |
| I, I-DICHLOROKTHANK | 227 708 | .5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | = 1=2 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1.1-TRICHLOROETHANE | BDL | .5 |
| 1,2-DICHLOROETHANE | BDL | .5 |
| | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | .5 |
| BROMODICHLOROMETHANE | BDL | .5 |
| 1,2-DICHLOROPROPANE | BDL | .5 |
| 1,3-trans-DICHLOROPROPENE | BDL | .5 |
| TRICHLOROETHYLENE | BDL | . 5 |
| BENZENE | BDL | . 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | .5 |
| 1.1.2-TRICHLORORTHANE | BDL | .5 |
| 2-CHLOROETHYL VINYL BTHER | MINI. | .5 |
| DIBROMOCHLOROMETHANE | BDL | .5 |
| BROMOFORM | BDL BDL BDL BDL | .5 |
| TETRACHLOROETHYLENE | BDL | .5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | .5 |
| TOLUENE | 4.3 | .5 |
| CHLOROBENZENE | BDL | .5 |
| ETHYLBENZENE | BDL | .5 |
| | | |
| ACETONE | BDL | 2.5 |
| CARBON DISULFIDE | BDL | .5 |
| THE | BDL | 2.5 |
| MEK | BDL | 2.5 |
| VINYL ACETATE | BDL | 1 |
| | BDL | 2.5 |
| MIBK | BDL | 2.5 |
| 2-HEXANONE | BDL | .5 |
| STYRENE | BDL | .5 |
| XYLBNBS | Rhr | . 5 |

Lab Number: 8593-2
Sample Designation: B-11 Below Water Table
Date Analyzed: 1/2/87

Matrix: Solid

Results expressed on a dry (103 degrees C) basis.

| VOLATILE ORGANICS | NOTABLIE ODGINICE | AANARNMAIMTAN | |
|--|----------------------------|-------------------|-----------------|
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | VOLATILE URGANICS | CONCENTRATION | DETECTION LIMIT |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | AUT ADAUGMULUD | (ug/g) | (ug/g) |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | UTUVI ONIORIDE | RDT | 1 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | VINYL CHLORIDE | 801 | 1 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | CHLOROKTHANK | BDL | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | BROMOMETHANE | BDL | 1 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | METHYLENE CHLORIDE | BDL | .5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1,1-DICHLOROBTHYLENE | BDL | .5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1,1-DICHLOROETHANE | BDL | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1,2-trans-DICHLORORTHYLENE | BDL | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | CHLOROFORM | . BDL | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1,2-DICHLOROETHANE | BDL | .5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1,1,1-TRICHLOROBTHANE | BDL. | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | CARBON TETRACHLORIDE | BDL | .5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | BROMODICHLOROMETHANK | BDL | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1.2-DICHLOROPROPANK | BDT. | 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1.3-trans-DICHLOROPROPENE | BDT. | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | TRICHLORORTHYLENE | BDT. | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | BRNZRNR | BDT. | . 5 |
| 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL BTHER BDL 5 DIBROMOCHLOROMETHANE BDL 5 BROMOFORM BDL 5 TETRACHLOROETHYLENE BDL 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 2.5 STYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYRENE BDL 5 SSTYRENE SSTYREN | 1.3-cis-DICHLOROPROPRNR | RDT | .5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | 1.1.2-TRICHLORORTHANR | RDT. | .5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | 2-CHLORORTHYL VINYL RTHRR | RNT | .5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | DIRROMOCHLOROMETHANE | BNT | . 5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | BDOMORODM | DD T | .5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | TPTDACUI ADAPTUVI DVP | DDI | . 5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | | PDT | • 5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | TO LUDUR | RDL | . 5 |
| RTHYLBENZENE BDL .5 ACRTONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 STYRENE BDL .5 | TOLUBUR | . 6 | • <u>,5</u> |
| ACRTONE CARBON DISULFIDE CARBON DISULFIDE BDL 5 THF BDL 2.5 MEK BDL 2.5 VINYL ACRTATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL 5 | CHLOROBENZENE | BDT | 5 |
| CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL .5 | RIHILBENZENE | BUL | . 5 |
| CARBON DISULFIDE THF BDL 2.5 MEK VINYL ACETATE MIBK BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL 2.5 | | BDL | 2.5 |
| ### BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL .5 | CARBON DISULFIDE | | |
| MEK VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL 5 | THF | | |
| VINYL ACRTATE MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL .5 | MEK | | |
| MIBK BDL 2.5 2-HEXANONE BDL 2.5 STYRENE BDL .5 | VINYL ACETATE | | |
| 2-HEXANONE BDL 2.5 STYRENE BDL .5 | MIBK | (300-8) (30 Tel.) | - |
| STYRENE BDL .5 | | | |
| | | | |
| | XYLENES | BDL | .5 |

Lab Number: 8593-3
Sample Designation: B-9 Above Water Table
Date Analyzed: 1/2/87
Matrix: Solid

Results expressed on a dry (103 degrees C) basis.

| (ug/g) (ug/g) (ug/g) | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|----------------------------|---------------|-----------------|
| 1,2-trans-Dichlorobthylene | | (ug/g) | (110/0) |
| 1,2-trans-Dichlorobthylene | CHLOROMETHANE | BDL | 1 |
| 1,2-trans-Dichlorobthylene | VINYL CHLORIDE | BDL | ĩ |
| 1,2-trans-Dichlorobthylene | CHLOROETHANE | BDL | 5 |
| 1,2-trans-Dichlorobthylene | BROMOMETHANE | BDL | i |
| 1,2-trans-Dichlorobthylene | METHYLENE CHLORIDE | BDL | . 5 |
| 1,2-trans-Dichlorobthylene | 1,1-DICHLOROETHYLENE | BDL | -5 |
| 1,2-DICHLOROETHANE | 1,1-DICHLORORTHANE | BDL | . 5 |
| 1,2-DICHLOROETHANE | 1,2-trans-DICHLOROETHYLENE | | |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL TRICHLOROSTHYLENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROSTHANE BDL 2-CHLOROSTHYL VINYL STHER BDL BBDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROSTHYLENE BDL 5 TETRACHLOROSTHYLENE BDL 5 TOLUENE CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CARBON DISULFIDE BDL 5 CARBON DISULFIDE BDL 2.5 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK | CHLOROFORM | | |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL TRICHLOROSTHYLENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROSTHANE BDL 2-CHLOROSTHYL VINYL STHER BDL BBDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROSTHYLENE BDL 5 TETRACHLOROSTHYLENE BDL 5 TOLUENE CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CARBON DISULFIDE BDL 5 CARBON DISULFIDE BDL 2.5 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK | 1,2-DICHLOROETHANE | | |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE BDL TRICHLOROSTHYLENE BDL 1,3-cis-DICHLOROPROPENE BDL 1,1,2-TRICHLOROSTHANE BDL 2-CHLOROSTHYL VINYL STHER BDL BBDL 5 BROMOFORM BDL 5 BROMOFORM BDL 5 TETRACHLOROSTHYLENE BDL 5 TETRACHLOROSTHYLENE BDL 5 TOLUENE CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROSTHYLENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CHLOROBENZENE BDL 5 CARBON DISULFIDE BDL 5 CARBON DISULFIDE BDL 2.5 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK BDL 3.8 MEK | 1, 1, 1-TRICHLOROETHANE | | W 187 |
| BROMODICHLOROMETHANE BDL .5 .5 .5 .5 .5 .5 .5 . | ONNOUN INIMAMMONIAND | | |
| 1,3-trans-DICHLOROPROPENE | BROMODICHLOROMETHANE | | |
| 1,3-trans-DICHLOROPROPENE | 1,2-DICHLOROPROPANE | | |
| TRICHLOROETHYLENE BDL .5 BBNZENE BDL .5 1,3-cis-DICHLOROPROPENE BDL .5 1,1,2-TRICHLOROETHANE BDL .5 2-CHLOROETHYL VINYL ETHER BDL .5 DIBROMOCHLOROMETHANE BDL .5 BROMOFORM BDL .5 TETRACHLOROETHYLENE 1.2 .5 1,1,2,2-TETRACHLOROETHANE BDL .5 TOLUENE 3.8 .5 CHLOROBENZENE BDL .5 ETHYLBENZENE BDL .5 ACETONE BDL .5 CARBON DISULFIDE BDL .5 THF BDL | 1,3-trans-DICHLOROPROPENE | BDL | |
| BENZENE | | | |
| 1,3-cis-DICHLOROPROPENE BDL .5 1,1,2-TRICHLOROETHANE BDL .5 2-CHLOROETHYL VINYL ETHER BDL .5 DIBROMOCHLOROMETHANE BDL .5 BHOMOFORM BDL .5 TETRACHLOROETHYLENE 1.2 .5 1,1,2,2-TETRACHLOROETHANE BDL .5 TOLUENE 3.8 .5 CHLOROBENZENE BDL .5 RTHYLBENZENE BDL .5 ACETONE BDL .5 CARBON DISULFIDE BDL .5 THF BDL .5 MEK BDL 2.5 VINYL ACETATE BDL 2.5 WINYL ACETATE BDL 2.5 WINK BDL 2.5 2-HEXANONE BDL 2.5 | BENZENE | BDL | |
| DIBROMOCHLOROMETHANE BROMOFORM BDL 5 TETRACHLOROETHYLENE 1.2 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 1 BDL 2.5 BDL 3.5 | 1,3-cis-DICHLOROPROPENE | BDL | |
| DIBROMOCHLOROMETHANE BROMOFORM BDL 5 TETRACHLOROETHYLENE 1.2 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 1 BDL 2.5 BDL 3.5 | 1,1,2-TRICHLOROETHANE | | |
| DIBROMOCHLOROMETHANE BROMOFORM BDL 5 TETRACHLOROETHYLENE 1.2 5 1,1,2,2-TETRACHLOROETHANE BDL 5 CHLOROBENZENE BDL 5 ETHYLBENZENE BDL 5 CARBON DISULFIDE BDL 5 MEK VINYL ACETATE BDL 1 BDL 2.5 BDL 3.5 | 2-CHLOROETHYL VINYL ETHER | BDL | |
| ### BEC 5 5 5 5 5 5 5 5 5 | DIBROMOCHLOROMETHANE | | |
| TETRACHLOROETHYLENE 1.2 .5 1,1,2,2-TETRACHLOROETHANE BDL .5 TOLUENE 3.8 .5 CHLOROBENZENE BDL .5 ETHYLBENZENE BDL .5 ACETONE BDL .5 CARBON DISULFIDE BDL .5 THF BDL .5 MEK BDL 2.5 MEK BDL 2.5 WINYL ACETATE BDL 1 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 | BROMOFORM | BDL | |
| 1,1,2,2-TETRACHLORORTHANE TOLURNE 3.8 CHLOROBENZENE BDL .5 RTHYLBENZENE BDL .5 ACETONE CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK VINYL ACETATE BDL BDL 1 MIBK BDL 2.5 PDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 | TETRACHLOROETHYLENE | 1.2 | |
| TOLURNE 3.8 CHLOROBENZENE BDL .5 ETHYLBENZENE BDL .5 ACETONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 2.5 MIBK BDL 2.5 Z-HEXANONE BDL 2.5 | 1,1,2,2-TETRACHLOROETHANE | BDL | |
| CHLOROBENZENE BDL .5 ACETONE CARBON DISULFIDE THF BDL .5 MEK VINYL ACETATE MIBK BDL 2.5 BDL 1 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 BDL 2.5 | TOLUENE | 3.8 | |
| ACETONE CARBON DISULFIDE THF BDL 2.5 MEK VINYL ACETATE BDL BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | CHLOROBENZENE | BDL | |
| ACETONE BDL 2.5 CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | RTHYLBENZENE | | 50 |
| CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | | * | |
| CARBON DISULFIDE BDL .5 THF BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | ACETONE | BDL | 2.5 |
| ### BDL 2.5 MEK BDL 2.5 VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | CARBON DISULFIDE | BDL | |
| MEK VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | THF | BDL | |
| VINYL ACETATE BDL 1 MIBK BDL 2.5 2-HEXANONE BDL 2.5 | MEK | BDL | |
| MIBK BDL 2.5 2-HEXANONE BDL 2.5 | VINYL ACETATE | BDL | |
| 2-HEXANONE BDL 2.5 | MIBK | | |
| 7.1.7 | 2-HEXANONE | | |
| STYRENE BDL _5 | STYRENE | BDL | .5 |
| XYLENES BDL .5 | XYLENES | | |

Lab Number: 8593-4
Sample Designation: B-10 Above Water Table
Date Analyzed: 1/6/87
Matrix: Solid

Results expressed on a dry (103 degrees C) basis.

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|-----------------|
| | (ug/g) | (ug/g) · |
| CHLOROMETHANE | BDL | 1 |
| VINYL CHLORIDE | BDL | 1 |
| CHLOROETHANE | BDL | .5 |
| BROMOMETHANE | BDL | 1 |
| METHYLENE CHLORIDE | BDL | . 5 |
| 1,1-DICHLOROETHYLENE | BDL | . 5 |
| 1,1-DICHLORORTHANE | BDL | . 5 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | • 5 |
| CHLOROFORM | BDL | . 5 |
| 1,2-DICHLOROETHANE | BDL | . 5 |
| 1,1,1-TRICHLOROETHANE | BDL | . 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE BROMODICHLOROMETHANE | BDL | .5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE | BDL | .5 |
| 1,2-DICHLOROPROPANE | BDL | • 5 |
| 1,3-trans-DICHLOROPROPENE | BDL BDL | .5 |
| TRICHLOROETHYLENE | BDL | .5 |
| BENZENE | BDL | .5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | .5 |
| 1.1.2-TRICHLORORTHANE | BDL | . 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| DIBROMOCHLOROMETHANE | . BDL | .5 |
| BROMOFORM . | BDL | .5 |
| TETRACHLOROETHYLENE | BDL | .5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | .5 |
| TOLURNE | 2.7 | .5 |
| CHLOROBENZENE | BDL | .5 |
| BTHYLBENZENE | BDL | . 5 |
| | | |
| ACETONE | BDL | 2.5 |
| CARBON DISULFIDE | BDL | . 5 |
| THF | BDL | 2.5 |
| MEK | BDL | 2.5 |
| VINYL ACETATE | BDL | i |
| MIBK | BDL | 2.5 |
| 2-HEXANONE | BDL | 2.5 |
| STYRENE | BDL | .5 |
| XYLENES | BDL | .5 |
| | (전 500년) | • • |

Lab Number: 8593-5
Sample Designation: B-10 Below Water Table
Date Analyzed: 1/2/87
Matrix: Solid

Results expressed on a dry (103 degrees C) basis.

| CHLOROMETHANE VINYL CHLORIDE CHLOROBTHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | | DETECTION LIMIT |
|---|---------------|-----------------|
| | (ug/g) BDL | (ug/g) |
| CHLOROMETHANE | | 1 |
| VINYL CHLORIDE | BDL | 1 |
| CHLOROKTHANK | BDL | . 5 |
| BROMOMETHANE | BDL | 1 |
| METHYLENE CHLORIDE | BDL | .5 |
| 1,1-DICHLOROETHYLENE | BDL | .5 |
| 1,1-DICHLOROETHANE | BDL | .5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | . 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | .5 |
| 1,1,1-TRICHLOROETHANE | BDL | .5 |
| CARBON TETRACHLORIDE | BDL | .5 |
| BROMODICHLOROMETHANE | BDL | .5 |
| 1,2-DICHLOROPROPANE | BDL BDL | .5 |
| CARBON TETRACHLORIDE BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE TRICHLOROETHYLENE | | .5 |
| | BDL | .5 |
| BENZENE | BDL | . 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROBTHYL VINYL ETHER | BDL | .5 |
| 1,1,2-TRICHLOROETHANE | BDL | .5 |
| 2-CHLOROBTHYL VINYL ETHER | BDL | .5 |
| NTDDAMACUT ADAMENUAND | BDL | .5 |
| BROMOFORM TETRACHLOROETHYLENE | BDL | .5 |
| TETRACHLOROETHYLENE | BDL | .5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | .5 |
| TOLUENE | 4.8 | .5 |
| CHLOROBENZENE | BDL | .5 |
| ETHYLBENZENE | BDL | . 5 |
| ACETONE | BDL | 2.5 |
| CARBON DISULFIDE | BDL | .5 |
| THF | BDL | 2.5 |
| MEK | BDL | 2.5 |
| VINYL ACETATE | BDL | ī |
| MIBK | BDL | 2.5 |
| 2-HEXANONE | BDL | 2.5 |
| STYRENE | BDL | . 5 |
| XYLENES | BDL | . 5 |
| | | |

| Resource | Analysts, | Incorporated |
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| 11 WOW CC | rinarysus, | morporatu |

Box 4778 Hampion, NH 03842 (603) 926-7777

TO:

PO # Whitinsville, MA

Mr. Matt Eichler ATF/Davidson Date Received: 1/27/87 (150)

C/O Caswell, Eichler & Hill Box 4696

Lab Number: 8806

Portsmouth, NH 03801

Date Reported: 2/10/87

Attached please find test results for Volatile Organic Compounds.

Musel Tooler h

Date

2/10/87

| CHAIN OF CUSTODY DOCUMENTATION | | | ADDRESS - | BOX 4 | DAVIDSON CEH C 4696 Ports mouth, NI+ | | | |
|---|--------------|--------------------------------------|--------------------------|----------------------------|--|-------------|-------------|-------------|
| PROJECT CONTACT MATT EICL SAMPLING LOCATION Whitins VIlle | iler e Mu | | JOB NAME | Neuronaux-raum races () | Bline (| (CEH) | | |
| FIELD IDENTIFICATION List each container separately | us# | SAMPLE | CONTAINER TYPE/YOLUME | FILTRA- | FICLD PRESERVATION | RCHARKS/AKA | LYSIS RCQUI | CSTED |
| Date 1/24/87 11ne 11:45 | 55C6-1 | O Solid O Liquid O Other | 0 6/2×40 ml | nona 💮 | 4°C. | VQA | | |
| Date Time | | Osolid Oliquid Other | OG/T/ ML | Sield lab none | | | | |
| Date Time | | O Solld Other | 86/ . AL | O field O lab O none | | | | |
| Date Time | | Osolid Oliquid Other Osolid | OG/T/ MI | Ofleld Olab Onone | <u>.</u> | | | |
| Date Time | | Olther Osolid | 86/1/ | O lab | | | | |
| Date Time | | Oliquid. Other Osolid | 86/14 | L O lab none | | | | |
| Date Time | | Oliquid . | OG/ OG/1/ | L O lab | | | | |
| Dato Time | | Solld Liquid Other | OG/ " | L O lab | | | | |
| Relinquished By: Laufline. | 1/25 | 1:10 - | Received Byt | | • | | Date | line , |
| Relinquished By: | Dat -2 | a Time | Received for | 1 | y by: OU/ ce Analysts, In | comparated | 1/27 | IIaa ISD |

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| | CHAIN OF CUSTODY DOCUMENTATION | | | ADDRESS C | O'CE | fuldson. | 190 <u>Z</u> | | |
|-------------|---|---------------|----------------------------------|--------------------------|----------------------------------|--------------------------|--------------|-------------|--------------|
| | M-8 PROJECT CONTACT MATT EICH | lec | • | JOB HAHC | B0x 4 | 696 Po | rts mouth | -NI+ | 3801 |
| | SAMPLING LOCATION Whitins VIlle | | | SAMPLE COLLEC | 108 B. | Blune (| CEH) | n | |
| | FICLD IDENTIFICATION List each container separately | LAD # | SAMPLE MATRIX | CONTAINER TYPE/YOLUME | FILTRA- TION | FIELD PRESERVATION | ACHARKS/AN | ALYSIS REQU | ICSTED |
| , | Date 1/24/87 Time 12:15 | 5806-3 | | 0 6/17 ML | O field O lab O none | 4°C. | YOA | | , |
| | Date Time | | Osolid Otiquid Other | 86/1/ ML | O lap | • • | | | |
| | Date Ilme | | O Solld O Solld | 86/. ml | Ofield Ofield Dab Done | · | | | |
| Š | Date Time | • | Solld Oliquid Other | OG/ NI OG/T/ MI | Ofield Olab Onone | | | | |
| Þ | Date Time | | Oselld Oliquid Oother | 86/1/ m | L O field L O lab L O none | | | | |
| ı. | Date Time | | O Solid O Liquid : O Other | 86/14 : | L O field L O lab L O none | · | | | |
| : | Date Time | | Solid Cliquid - Other | Ö6/1/ | LO field LO lab LO none | | | | |
| , | Date . Time | | Solld Liquid Other | 8°/ 8°/ 8°/1/ | nt Ollold nt Olab nt Onone | | | | |
| (Section 1) | Relinquished By: - Sun Bline | /2 | 5/87 9:45 | Received By | • | • | | Date | II.me |
| | Relinquished Bys Du 3 | Dat (- 2 | | | nna | y by: ce Analysts, In | comparated | Date | 11me 1200 |
| 8 + | | • | | | | te zermiysis, 11 | corporaea | | a ° |
| | * | | | | * | | ** 4 | | |

| CHAIN OF CUSTODY DOCUMENTATION MATT EICH | | •. | Unallega - | BOX 4 | fuldson H 1696 Po | rts mouth | NI+ | 801 |
|---|---------------|---------------------------------------|--|----------------------------------|--------------------------------|--------------|-------------|--------|
| SAMPLING LOCATION Whiting VI le | <u>- M+</u> | | SAMPLE COLLE | TOR D. | Bline (| CEH) | | |
| FIELD IDENTIFICATION List each container separately | LAR # | SAMPLE MATRIX | CONTAINER TYPE/YOLUME | FILTRA- TIOM | FIELD PRESCRYATION | RCHARKS/AHAL | AZIZ KCORCZ | STED |
| Date 1/24/87 Time 12:50 | 806- J | O Solld O Liquid O Other | O P/ O G/2×40mL G G/11 mL | Ofield Olab Sonon | Wiston. | VOA | | |
| Date Timo | | Osolid Oliquid Oother | 06/ al | O lap | • . | | | |
| _DateTime | | O Solid O Liquid Other | 84. | O field O lab O none | | | | |
| Date Time | • | Solld Oliquid Other | OP/ MI | O Lield | | | | |
| Date Time | | Scolld Oliquid Other | 86/ | L O field L O lab L O none | | | | |
| Date Time | | O Salid O Liquid: O Other | 86/ | L O field L O lab | • | | | |
| Date Time | | Solid Cliquid - Other | O6/ | il O fleld il O lab | | | | |
| . Date Time | | Solid Liquid Other | 8:/ | al O Held | | | | |
| Relinquished By: Suiflave | 1/2: | | Received By | | • | | Date | Tipe , |
| Relinquished By: | Dat | · · · · · · · · · · · · · · · · · · · | Received fo | Chro | y By: n Nell ce Analysis, In | ncorporated | Date //27 | 150 |

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| CHAIN OF CUSTODY DOCUMENTATION | | | CLIENT A | TF/D | fuld SON | ige <u>-</u> | or <u>5</u> | . |
|---|---------|------------------------------|------------------------------|----------------------------------|-------------------------------|--------------|--------------|---------------|
| M-10 | | | ADDRESS : | BOX 41 | 596 Po | rts mouth | NH | İ |
| PROJECT CONTACT MATT EICL | , | • | • | /NUMBER | | | 03 | 801 |
| PROJECT CONTACT IVIATT ZICL | iler. | | | • | Bline (| (EU) | | ٠ |
| SAMPLING LOCATION Whitins VIlle | <u></u> | | SAMPLE COLLEC | 10R 12' | Dune | | | |
| FIELD IDENTIFICATION List each container separately - | LAS # | SAMPLE MATRIX | CONTAINER TYPE/YOLUME | FILTRA- TION | FIELD PRESERVATION | RCHARKS/ANA | LYSIS REQUES | ITEO |
| Date 1/24/87 Time 13:20 | 806-4 | O Solid O Liquid O Other | 0 5/2×40AL | O fleld O lab none | MANNET. | VOA | | |
| Date Time | | Osolid Oliquid Other | 8°/ AL | S field lab none | | | | |
| Date Iimo | | O Solld Other | OP/ mi | Ofleld Olab Onone | | | | |
| _Date Time | • | Osolid Oliquid . Other | OP/ NI OG/ NI OG/1/ NI | LO fle1d LO 1ab LO none | | | | |
| Date Time | | O Other Scale | 86/1/ | L O lield L O leb L O none | | | | |
| Date Time | : | Osolid Oliquid: Other | 86/14 | L Ofield L O lab | | | | |
| Date Time | | Solid Eliquid - Other | 86/1/ | LO field LO lab LO none | | | | ··· |
| . Date Time | | Solid Liquid Other | OG/ | at 0 11e1d | | | | |
| Relinquished By: - Sun Store | Dat | 2787 9:45 | Received By | • | • | | Date | Ilma , |
| Relinquished By: | Da (| 17 1500 | Received fo | Dian | y By: Delloce Analysis, In | acomorated | 1600 | 1100 152D |
| | • | | · . | Reom | | icorporuteu | 7 | ě. |

| CHAIN OF CUSTODY DOCUMENTATION | | | CLIENT A | FF/DA 6 CE BOX 41 | tyld SON | rts mouth | | |
|---|--|----------------------------------|--------------------------|--|-----------------------|-------------|--------------|-------------|
| PROJECT CONTACT MATT EICL SAMPLING LOCATION Whitins VI II | Name and Address of the Owner, where the Party of the Owner, where the Party of the Owner, where the Owner, which is the O | • | JOB HAME | /xumbcr | Bline (| | | 801 |
| FIELD IDENTIFICATION List each container separately | LAB # | SAHPLE MATRIX | CONTAINCR TYPE/YOLUME | FILTRA- TION | FIELD PRESERVATION | REHARKS/ANA | LYSIS REQUE: | STED |
| Date 1/24/87 Time 14:05 | 5 | O Solld O Liquid O Other | 0 6/17 PL | anone ar | HOC. | VOA | | |
| Date Time | | Osolid Oliquid Other | 86/1/ ml | S lab . | | | | |
| _Pate | | O Solld Other | 86/ . mi | Offeld Offeld Onone | | | | |
| Date Time | | Osolid Oliquid Other | OP/ #1 OG/1/ #1 | Ofleld Olab Onone | | | | |
| Date Time | | Solid Oliquid Other | 86/1/ | L O field L O lab L O none | | | | |
| Date Iimo | | O Solid O Liquid . O Other | 86/14 | L O field L O field L O none | | - | | |
| Date Time | | Scalld Cliquid - Other | Q6/1/ | LOfield LOfield LOfield LOfield | | | | |
| . Date Time | | Solld Liquid Other | 100/ | al O lield | | | | |
| Relinquished By: Aurepline | Dat 1/2 | 5/87 9:45 | Received By | • | • | | Date | [lat |
| Relinquished By: |) Dat | 27 1500) | Received Fo | Man | nell. | comowded | Data | 1820 |
| | .* . | | | . Acoun | cé Analysts, In | | | |

Lab Number: 8806-1
Sample Designation: M-6
Date Analyzed: 1/30/87
Matrix: Water

| | VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHYLENE 1,2-trans-DICHLOROETHYLENE | CONCENTRATION | DETECTION LIMIT |
|---|---|-------------------|-----------------------|
| | | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | (ug/L) BDL 48 BDL | 10 |
| | CHLOROETHANE | BDL | . 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE | BDL | |
| | 1.1-DICHLOROETHYLENE | BDL | 5 5 |
| | 1.1-DICHLOROETHANE | BDL | 5 |
| | 1,2-trans-DICHLOROETHYLENE | 13 | 5 |
| | CUIADAFADM | BDL | 5 |
| | 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| | 1.1.1-TRICHLORORTHANE | BDL | 5 |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | | BDL | 5 |
| | 1 2-DICHLOROPROPANE | BDL | 5 E |
| | BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 |
| | TRICHLOROETHYLENE | 7.6 | 5 |
| 8 | DDNZDND | BDL | |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | | . 5 |
| | 1 1 2-TRICHIOROFTHAND | BDL BDL | . 5 |
| | 2-CHIOROFPHYI UTNYI ETHER | BDL | 5 5 5 5 5 |
| | DIBROMOCHLOROMETHANE | BDL | 5 |
| | BROMOFORM | BDL | 5 |
| | TETRACHLOROETHYLENE | 13 | 5 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | TOLUENE | BDL | 5 5 |
| | CHLOROBENZENE | BDL | 5. |
| | ETHYLBENZENE | BDL | 5 5 |
| | BINILDENZERE | BDL | 5 |
| | ACETONE | BDL | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | 25 |
| | VINYL ACETATE | BDL | 10 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL | 25 25 |
| | STYRENE | BDL | 5 |
| | XYLENES | BDL | 5 5 |
| | 15 1 11 11 11 11 11 11 11 11 11 11 11 11 | ת ע ע | ວ |

Lab Number: 8806-2
Sample Designation: M-7
Date Analyzed: 2/3/87
Matrix: Water

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---------------|-----------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 5 5 5 5 5 5 5 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,1,2-TRICHLOROETHANE | BDL | 5 5 5 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM . | RDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| | also | |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | 11547 |

Lab Number: 8806-3
Sample Designation: M-8
Date Analyzed: 2/2/87
Matrix: Water

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|---|---------------|---------------------------------|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | 280 | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 5 |
| 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | . 5 |
| 1,2-trans-DICHLOROETHYLENE | 640 | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| 1,2-DICHLOROPROPANE | BDL | 5 5 5 5 5 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | 17 . | 5 5 5 5 5 5 5 |
| BENZENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM . | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | RDT | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| | | |

Lab Number: 8806-4
Sample Designation: M-10
Date Analyzed: 2/2/87
Matrix: Water

| VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|----------------------------|-----------------------|
| | (ug/L) BDL BDL BDL BDL BDL | (ug/L) |
| CHLOROMETHANE | BDT. | 10 |
| CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDI. | 10 |
| CHLOROETHANE | BDI. | 5 |
| BROMOMETHANE | RUI | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1 1-DICHLOROFTHYLENE | BDL | 5 |
| 1. 1-DICHLOROETHANE | BDL | 5 |
| 1 2-trans-DICHIOROFTHVIENE | BDL | 5 5 5 5 5 |
| CHIOROPORM | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 E |
| 1 1 1-TRICHLOROFTHANE | BDL | 5 |
| CAPRON TETRACHIORIDE | RDL | 5 |
| BROMODICHI OROMETHANE | BDL | 5 5 5 |
| 1 2-DICHIODOPPOPANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL | 5 5 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| DENTENE | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| 1,3-CIS-DICALOROFROFENE | BDL | 5 |
| 2-CHIADARTHYI VINVI RTURD | BDL | 5 5 5 5 5 |
| DIBDOMOCULODOMETUANE | BDL | 5 |
| DIBROMOCHLOROMETHANE BROMOFORM | BDL | 5 |
| TETRACHLOROETHYLENE | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 5 |
| CHLOROBENZENE | BDL | 5 * . |
| ETHYLBENZENE | BDL | 5 5 |
| EIRILBENZENE | BDL | 5 |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL . | 5 |
| THF | BDL | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |
| A I DERES | DDL | 5 |

Lab Number: 8806-5
Sample Designation: M-11
Date Analyzed: 2/2/87
Matrix: Water

| VOLATILE ORGANICS CHLOROMETHANE VINYL CHLORIDE CHLOROETHANE BROMOMETHANE METHYLENE CHLORIDE 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE CHLOROFORM | CONCENTRATION (ug/L) BDL BDL BDL BDL BDL BDL BDL BDL BDL BDL | DETECTION LIMIT |
|--|--|---|
| | (ug/L) | (ug/L) |
| CHLOROMETHANE | BDL | 10 |
| VINYL CHLORIDE | BDL | 10 |
| CHLOROETHANE | BDL | 5 |
| BROMOMETHANE | BDL | 10 |
| METHYLENE CHLORIDE | BDL | 5 |
| 1,1-DICHLOROETHYLENE | BDL | 5 |
| 1,1-DICHLOROETHANE | BDL | 5 |
| 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| CHLOROFORM | BDL | 5 |
| 1,2-DICHLOROETHANE | BDL | 5 |
| 1,1,1-TRICHLOROETHANE | BDL | 5 |
| CHLOROFORM 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE | BDL | 5 |
| BROMODICHLOROMETHANE | BDL | 5 |
| BROMODICHLOROMETHANE 1,2-DICHLOROPROPANE 1,3-trans-DICHLOROPROPENE | BDL BDL | 5 |
| 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| TRICHLOROETHYLENE | BDL | 5 |
| | BDL | 5 |
| 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER DIBROMOCHLOROMETHANE BROMOFORM | BDL | 555555555555555555555555555555555555555 |
| 1.1.2-TRICHLOROETHANE | BDL | 5 |
| 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| DIBROMOCHLOROMETHANE | BDL | 5 |
| BROMOFORM TETRACHLOROETHYLENE 1,1,2,2-TETRACHLOROETHANE TOLUENE CHLOROBENZENE | BDL | 5 |
| TETRACHLOROETHYLENE , | BDL | 5 |
| 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| TOLUENE | BDL | 5 |
| CHLOROBENZENE | BDL | 5 |
| ETHYLBENZENE | BDL | 5~ - |
| | | |
| ACETONE | BDL | 25 |
| CARBON DISULFIDE | BDL | 5 |
| THF | BDL . | 25 |
| MEK | BDL | 25 |
| VINYL ACETATE | BDL | 10 |
| MIBK | BDL | 25 |
| 2-HEXANONE | BDL | 25 |
| STYRENE | BDL | 5 |
| XYLENES | BDL | 5 |

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984

METHOD 624

| * | Resource Analysts, Incorporated Box 4778 Hampton, NH 03842 (603) 926-7777 |
|---|--|
| Mr. Matt Eichler Caswell, Eichler & Hill P.O. Box 4696 Portsmouth, NH 03801 | PO # ATF Davidson Date Received: 3/13/87 (13: Lab Number: 9143 Date Reported: 3/18/87 |
| Attached please find test repounds. | esults for Volatile Organic Com- |
| | |

Date 3/18/87

Technical Director

of I page CHAIR OF CUSTODY BOCUMENTATION ATT DAVIDS ON Whits sulle JOB KAME / NUMBER JOE MENENDEZ PROJECT CONTACT KRUCE BLINE (CEH) m-9 SAMPLE COLLECTOR SAMPLING LOCATION FIELD IDENTIFICATION FIELD REMARKS/AKALYSIS REQUESTED LAB # FILTRA-SAMPLE CONTAINER TYPE/VOLUME TION PRESERVATION list each container separately MATRIX OP/ at O field OSolid VOH Q 6/2×40 =1 Q 1=b 9143. Otiquid Other ::15 O 6/17 Date ·lime aL O none 8% ALO flold Osolid Oliquid Other al O lab OG/T/ Date Time at O none 0 6/1/ 0 6/1/ at O field OSolid ml O lab 8 Liquid Time Date at O field Osolid OP/ aL O lab OG/ OLiquid OG/T Date Time Other mL O field 8% Scolid Liquid mL O lab OG/1/ Other Time Date 86/ mL O field mL O lab mL O none OSolid Oliquid . Other Date Time aL Offeld OF/ OF/ OF/1/ Osolid al O lab OLiquid Obther ML O none Date Time 86/ Scilld Liquid ALO 11010 mL O lab Date Time Other Relinquished By: Received Byt. Date line Date line Received For Laboratory By: Relinquished By Date line Date Time Resource Analysts, Incorporated

9143

Lab Number: Sample Designation: Date Analyzed:

Matrix:

9143-1 M-9 ATF Davidson 3/16/87 Water

| | VOLATILE ORGANICS | CONCENTRATION | DETECTION LIMIT |
|--|---|--------------------------|------------------|
| | * | (ug/L) | (ug/L) |
| | CHLOROMETHANE | BDL | 10 |
| | VINYL CHLORIDE | BDL BDL BDL BDL | 10 |
| | CHLOROETHANE | BDL | 5 |
| | BROMOMETHANE | BDL | 10 |
| | METHYLENE CHLORIDE | BDL | 5 |
| | 1.1-DICHLOROETHYLENE | BDL | |
| | 1,1-DICHLOROETHYLENE 1,1-DICHLOROETHANE 1,2-trans-DICHLOROETHYLENE | BDL | 5 |
| | 1,2-trans-DICHLOROETHYLENE | Trace | 5 |
| | CHLOROFORM | BDL | 5 |
| | 1,2-DICHLOROETHANE 1,1,1-TRICHLOROETHANE | BDL | 5 |
| | 1.1.1-TRICHLOROETHANE | BDL | 5 |
| | CARBON TETRACHLORIDE | BDL | 5 |
| | D D A L A N T A VI T A D A L I D M VI L L I D | BDL | 5 5 5 5 5 5 5 5 |
| | 1,2-DICHLOROPROPANE | BDL | 5 |
| | 1,3-trans-DICHLOROPROPENE | BDL | 5 |
| | TRICHLOROETHYLENE | Trace | 5 |
| | BENZENE | BDL | 5 5 5 5 |
| | 1.3-cis-DICHLOROPROPENE | BDL | 5 |
| | 1,3-cis-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE 2-CHLOROETHYL VINYL ETHER | BDL | 5 |
| | 2-CHLOROETHYL VINYL ETHER | BDL | . 5 |
| | DIBROMOCHLOROMETHANE | BDL | · 5 |
| | BROMOFORM | BDL | 5 |
| | DIBROMOCHLOROMETHANE BROMOFORM TETRACHLOROETHYLENE | 48 | 5 5 5 |
| | 1,1,2,2-TETRACHLOROETHANE | BDL | 5 |
| | TOLUENE | BDL | 5 |
| | CHLOROBENZENE | BDL | 5 5 |
| | ETHYLBENZENE | BDL | 5 |
| | | | - |
| | ACETONE | BDL | 25 |
| | CARBON DISULFIDE | BDL | 5 |
| | THF | BDL | 25 |
| | MEK | BDL | 25 |
| | VINYL ACETATE | BDL | 10 |
| | MIBK | BDL | 25 |
| | 2-HEXANONE | BDL | 25 |
| | STYRENE | BDL | 5 |
| | XYLENES | BDL . | 5 |
| | | | |

[&]quot;Trace" denotes probable presence below listed detection limit.

BDL = BELOW DETECTION LIMIT

METHOD REFERENCE: 40 CFR PART 136, FRIDAY, OCTOBER 26, 1984 METHOD 624

Complete

RISK ASSESSMENT

OF

AREA SURROUNDING M - 8

AT THE

ATF/DAVIDSON ARCADE FACILITY
WHITINSVILLE, MASSACHUSETTS

PREPARED FOR
WHITE CONSOLIDATED INDUSTRIES, INC.
COLUMBUS, OHIO

PREPARED BY
CASWELL, EICHLER & HILL, INC.
PORTSMOUTH, NEW HAMPSHIRE

JULY 1987

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INTRODUCTION

The purpose of this public health assessment is to evaluate the potential risks associated with exposure to certain volatile organic compounds known to exist in the ground water at the ATF/Davidson Arcade Facility, Whitinsville, Massachusetts. Past October 1985, October 1986 and March 1987 field study reports have shown the only consistent contamination of any elevated significance exists locally near monitoring well M-8. As standard procedure in this type of assessment, the impacts of this localized site condition on human health will be evaluated under baseline conditions that represent a "No-Action" remedial alternative.

The assessment is comprised of three components:

- . Hazard Assessment
- . Exposure Assessment
- . Risk Assessment

The objectives of the Hazard Assessment are to review site investigation data, and to summarize the nature and extent of observed contamination. Based upon this review, indicator substances are normally selected for further assessment. In that only three volatile organic compounds have consistently been present in groundwater samples from monitoring well M-8, all three will be considered.

The Exposure Assessment indentifies potential receptors and exposure pathways. Additionally, concentrations of contaminants at points of exposure are estimated based on available site data and are compared to applicable public health standards and guidelines.

The Risk Assessment is a quantitative evaluation of risks associated with single and multiple chemical exposures for each identified pathway. Projected levels of chemical intake are compared to established critical toxicity values. These values represent acceptable intake levels for

noncarcinogens, and carcinogenic potency factors for potential carcinogens.

HAZARD ASSESSMENT

SITE CHARACTERIZATION

Location And General Setting: The ATF/Davidson Arcade Facility is located on the north bank of the Mumford River, approximately one mile west of the center of town in Whitinsville, Massachusetts. The area is culturally characterized by other industrial facilities 1000 feet to the east and residential units 400 feet to the northeast. The facility is bounded by a security fence, and twenty-four hour guard service is maintained. The area is serviced by both municipal water and sewer systems.

Hydrogeologic Setting: The site is best described as a flat plain that spans 2800 feet along the north bank of the Mumford River. This plain was created by filling the river embayment with foundry bed fill that principably consists of coarse grained sand and gravel, and fine ash. The foundry that was the source of this fill since the late nineteenth century is located in the present Covitch complex east of the Arcade Facility. As described in an earlier CEH report (October 1985), the hydraulic gradient across the Arcade site is nearly flat; this finding is consistant with what would be expected, given the coarse grained nature of the fill placed in the river. Although gradual, the gradients support a flow direction toward the river.

Mumford River Hydraulics: Personal communication with the U.S Geological Survey, Water Resources Division shows that the hydraulic data concerning the river is somewhat limited, especially in the Arcade site area. Twelve years of flow records are available, however, for the East Douglas station from July, 1939 to September 1951. This station, which exists approximately three miles up-river from the site, measures flow from a 29.1 square mile drainage area. The annual average dis-

charge in this location has been calculated at 44.8 cubic feet per second (cfs). Clearly, use of these data will result in a conservative impact assessment later in this report because significant drainage basin area and concommitant flow have not been included in the analyses.

Local Wind Speed and Direction: Personal communication with the Weather Service at the Worcester Municipal Airport shows the average annual wind speed and direction at that location to be 10.2 miles per hour from the southwest.

CONTAMINANT CHARACTERIZATION

Probable Source of Contamination: Discussions with present and former employees of ATF/Davidson have been inconclusive as to the etiology of the volatile organic compounds that exist in the ground water at monitoring well M-8. Given the many years that have passed since the foundry fill was placed in this location, a buried source seems unlikely. Further, personal communications with the employees shows no evidence of subsequent burial or storage in this area. An undocumented spill, therefore, seems the only other event that could explain the existence of the noted contamination.

Contaminant Levels: As summarized in the CEH October 1986 report, volatile organic compounds found in M-8 include Trichloroethylene (TCE), trans-1,2-Dichloroethylene (t-DCE), and vinyl chloride (WC). The latter two compounds are common weathered (break-down products) species of the parent compound, Trichloroethylene. Table 1 shows the historical record of the compound concentrations.

TABLE 1

WATER OUALITY - MONITORING WELL M-8

| Date | Trichloroethylene | trans-1,2- | Vinyl Chloride | |
|------------------|-------------------|------------------|----------------|--|
| | (ug/l) | Dichloroethylene | (ug/1) | |
| | | (ug/1) | | |
| | | | | |
| 7-18-85 | 30 | 610 | 260 | |
| 11-13-85 | Trace (≥ 10) | 1100 | 380 | |
| 2-10-86 | Trace (≥ 10) | 380 | Trace (≥ 10) | |
| 5-13 - 86 | 26 | 1600 | 600 | |
| 8-06-86 | 15 | 720 | 220 | |
| 2-02-87 | 17 | 640 | 280 | |
| | | | | |
| Average | 18 | 842 | 292 | |
| | (1.5%) | (73%) | (25.5%) | |

As these data show, the mass balance is shifted toward the weathered species. This may indicate a relatively lenghly period of time has elapsed since emplacement, or that significant biological and physio-chemical reactions have occured in a shorter time frame. New evidence suggests that the presence of aluminum silicates (somewhat prevalent in foundry bed materials), and nutrient enhanced/elevated temperature ground water (fed by upgradient surface water) can significantly accelerate the weathering process. Which time frame is accurate at the M-8 location is unknown, and may not be able to be determined given the present research data.

<u>Aerial Extent of Contamination</u>: The CEH March 1987 report shows the locations of additional monitoring wells (M-9, M-10 and M-11) that were placed hydraulically upgradient of M-8. Additionally, water quality results from wells M-6, M-7, M-8, M-9, M-10 and M-11 are included in the report. Given the relatively uncontaminated nature of M-9, M-10, and

M-11, a reasonable assumption may place the center of the contaminated area at M-8, with the edge of the plume extending one-half the distance toward each well. Additionally, a mirror image of this defined plume would presumably exist to the east of M-8. Figure 1 shows this plume interpretation, the surface area of which covers approximately 13,100 square feet. As mentioned earlier, ground water, and thusly the plume of contamination flow toward the adjacent river.

<u>Properties</u>. Criteria and Standards: Table 2 provides a summary of the physical and chemical properties of TCE, t-DCE, and W. These properties relate to the fate of each species in given environmental media.

TABLE 2

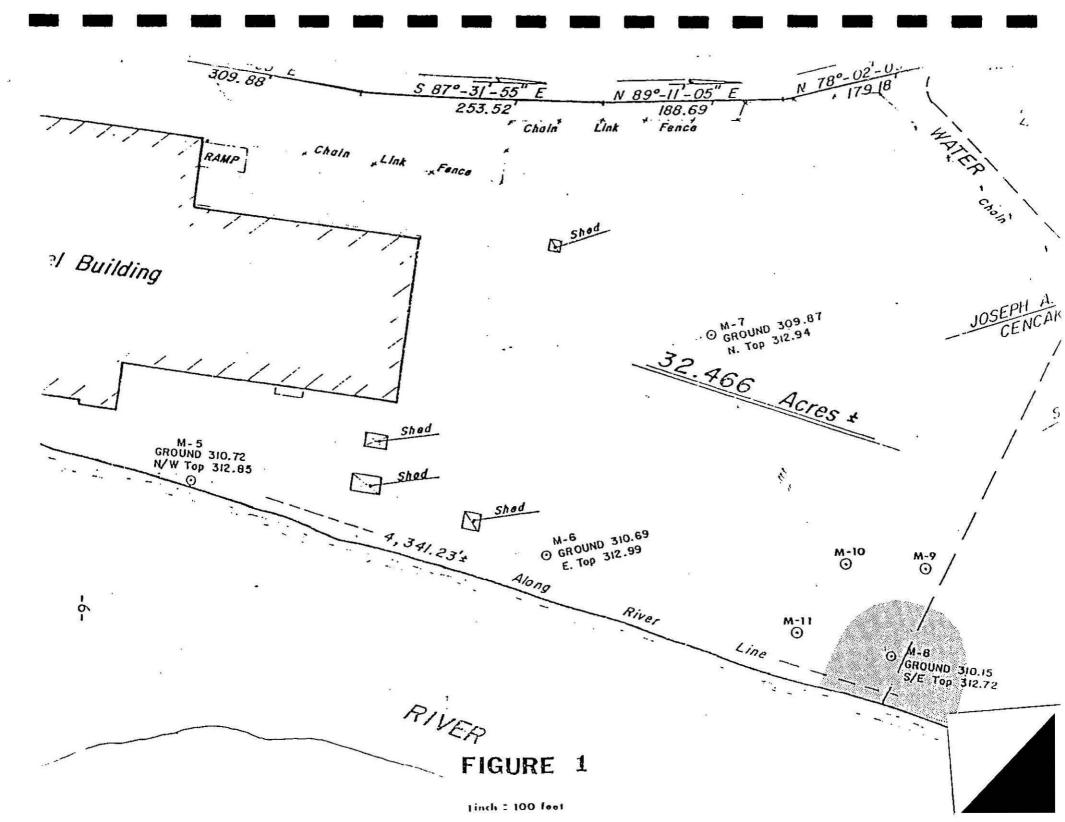
PHYSICAL AND CHEMICAL PROPERTIES

| Chemical | Molecular Weight | Melting Point (^O C) | Boiling Point (°C) | Specific Gravity | Solubility (Water) (mg/1) | Log Octanol/ Water Parti- tion Coeffic- ient | Vapor Pressure (mm\Hg) |
|----------|---------------------|---------------------------------------|--------------------------|---------------------|---------------------------------|---|------------------------------|
| TCE | 131.4 | -73 | 87 | 1.464 | 1100 | 2.29 | 57.9 |
| t-DCE | 96.95 | -50 | 48 | 1.26 | 600 | 0.48 | 200 |
| VC | 62.5 | -153 | -13.9 | 0.912 | 1100 | 1.40 | 2660 |

As these values show, these compounds are moderately soluble in water, and have generally high vapor pressures. Because of these properties, these compounds volatize from surface waters rapidly. The USEPA has determined the surface water half-lives for these compounds to range from a few hours (VC) to a few days (TCE).

Octanol/water partition coefficients are low to moderate, indicating that the compounds do not tend to bioaccumulate or adsorb significantly to soils. With specific gravities greater than or nearly equal to one, these compounds tend to sink in groundwater if present as a separate phase.

Table 3 summarizes the toxicity criteria and standards for TCE, t-DCE



and W. Brief descriptions and explanations of these criteria and standards follow the table.

TABLE 3

EXISTING STANDARDS AND CRITERIA

| Chemical | MPDWR ⁽¹⁾ MCL (mg/1) | $_{\mathrm{TLV}}^{(3)}$ $_{\mathrm{TWA}}$ $_{(\mathrm{mg/m}^3)}$ | CAG ⁽⁵⁾ (CIASS) (ingestion) | CPI (5) (mg/kg/day) -1 (ingestion) | USEPA ⁽⁵⁾ WQCOW (mg/1) | MAC (6) PFAL (mg/l) |
|----------|---------------------------------|--|--|------------------------------------|-----------------------------------|---------------------|
| TCE | 0.005 ⁽²⁾ | 270.0 | В | 0.011 | 0.0028 | 45.0 |
| t-DCE | <u></u> | 790.0 | D | - | _ | |
| vc | 0.001 ⁽²⁾ | 10.0 | A | 2.30 | 0.002 | = |

- (1) National Primary Drinking Water Regualtions, Maximum Contaminant levels, 40 CFR 141.
- (2) Proposed Maximum Contaminant Levels for the NPDWR, FR 11/25/85.
- (3) Threshold Limit Value—Time Weighted Average for inhalation exposure during an 8 hour day, 5 days per week; American Conference of Governmental Industrial Hygienists, 1986-87.
- (4) USEPA Carcinogen Assessment Group Weight of Evidence: A proven human carcinogen; B - probable human carcinogen; C - possible human carcinogen; D - not enough eveidence to evaluate potential carcinogenicity.

- (5) Carcinogenic Potency Index (CPI); Water Quality Criteria for Drink Water (WQCDW) USEPA Superfund Public Health Evaluation Manual, October 1986.
- (6) Maximum Allowable Concentration for Protection of Freshwater Aquatic Life - USEPA Quality Criteria for Water, 1986.
 Descriptions of criteria and standards are as follows:
 - a) National Primary Drinking Water Regulations, 40 CFR 141: These regulations set Recommended Maximum Contaminant Levels (MCLs) for several organic, inorganic, microbiological, and radiological contaminants. RMCLs are the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which includes an adequate margin of safety. RMCLs are non-enforceable health goals. The MCL standards are enforceable only in community water systems and are based both on health-related criteria for long-term, chronic exposure and practical treatment technology currently available. RMCLs and MCLs for eight volatile synthetic organic chemicals were proposed in the Federal Register, November 13, 1985.
 - b) TLV-TWA (ACGIH, 1986-87): The threshold limit value (TLV)-time weighted average (TWA) of a compound is the average concentration in air for a normal 8-hour work day and a 40-hour work week to which nearly all workers may be repeatedly exposed, day after day, without adverse effect. Although the TLVs were not developed to rank relative toxicity of the airborne chemicals, the TLVs represent the most substantial set of health-based criteria for airborne contaminants.

.

c) <u>Carcinogenic Potency Index (USEPA, 1986a)</u>: For many known and suspected carcinogenic substances, a carcinogenic potency index has been developed by the USEPA Carcinogen Assessment Group (CAG).

This index reflects the carcinogenic potential of a unit dose of chemical. It indicates the relative potency of contaminants in inducing cancer, and can therefore be used to develop relative rankings of carcinogens.

- d) <u>USEPA Water Quality Criteria (USEPA, 1986b)</u>: USEPA Water Quality Criteria specify concentrations of pollutants or pollutant catergories in water which will generally ensure water quality adequate to support a specified water use. The criteria are guidance levels only and have no regulatory impact. Two criteria, representing acute and chronic levels, are presented for freshwater aquatic life.
- e) <u>Cancer Risk Value (USEPA, 1986a)</u>: This value is the dose (either ingested or inhaled) calculated by the USEPA Carcinogen Assessment Group (CAG) which is expected to result in an increased lifetime risk of cancer of one in an exposed population of 100,000. This risk assessment is based on values of oral (ingestion) or inhalation routes of exposure, where apporpriate.

<u>Toxicity Profiles</u>: The three chemical compounds in question are toxicologically understood and regulated as follows:

a) <u>Trichloroethylene (TCE)</u>: Ingestion of large amounts TCE results in vomiting and abdominal pain followed by transient unconsciousness. Prolonged exposure may cause liver damage. Long-term inhalation and ingestion studies with animals have shown evidence of carcinogenicity. The CAG has designated TCE as a Group B - probable human carcinogen (USEPA, 1985a).

The proposed MCL for TCE in drinking water is 5 ug/l. Since this chemical is considered a potential carcinogen, the RMCL is zero. The CAG has estimated that a lifetime cancer risk of 10⁻⁵ is associated with ingestion of water containing 27 ug/l of TCE.

b) <u>trans-1,2-Dichloroethylene</u>: Little information concerning exposure to trans-1,2-dichlorethylene is available. There are no reports that t-DCE is carcinogenic in humans or animals. Human exposure to high concentrations has been shown to have anesthetic effects as well as nausea, vomiting, weakness, tremor, and cramps. Repeated exposure to high concentrations produced fatty degeneration of the liver in rats (USEPA, 1985a).

A one-day NCAEL for t-DCE has been established by the USEPA Office of Drinking Water. The one-day NCAEL is the concentration of t-DCE in water which results in no observable adverse effects (based on non-carcinogenic end-point of toxicity) assuming that two liters of that water are consumed per day over the course of 10 days. The one-day NCAEL for a 10 kg child is 2.7 mg/l (USEPA, 1985b).

The Office of Drinking Water has also published a Lifetime NOAEL. The Lifetime NOAEL is the amount of t-DCE in water at which, when two liters are ingested per day, over the course of a lifetime, no adverse effect would be observed. The lifetime NOAEL for a 70 kg adult is 0.35 mg/l (USEPA, 1985b).

c) <u>Vinyl Chloride</u>: Most toxicological data about vinyl chloride involves inhalation data only. Short-term high level exposure can produce syptoms of narcosis, respiratory tract irritation, bronchitis, headache, and dizziness in humans. Long-term exposure to vinyl chloride results in liver, cardiovascular and gastrointestinal damage (USEPA, 1985a).

Vinyl chloride is considered a human carcinogen based on extensive studies involving humans and occupational exposure data. It is classified as a Group A - proven human carcinogen by the CAG. The CAG has estimated that a lifetime carcer risk of 10⁻⁵ is associated with ingestion of water containing 20 ug/l of vinyl chloride. The proposed RMCL is zero based on carcinogenicity, however, the proposed, enforceable, MCL is 1 ug/l.

EXPOSURE ASSESSMENT

POTENTIAL RECEPTORS

Residential and Industrial Community: The area immediately surrounding the ATF/Davidson Arcade facility is fairly densely populated, especially during the work day. Residents and employees of the area could potentially be exposed to volatized air emissions in the vacinity of the contaminated zone. The zone of contamination is relatively isolated, however, with the nearest residences, and businesses being approximately 400 feet to the northeast. Given the dynamics of local groundwater hydraulics, contaminent transport is understood to flow away from residences and comercial/industrial establishments, and toward the Mumford River.

<u>Surface Water</u>: Given the proximity of the known groundwater contamination to the river and groundwater flow direction being toward the river, contamination will undoubtedly discharge to the Mumford River.

EXPOSURE PATHWAYS AND CONCENTRATION ESTIMATES

AIR: Volatile organic contaminants that are present in ground water have relatively high vapor pressures and can potentially evaporate into the atmosphere through soil, or after discharging to surface water.

Once in the air, the contaminants could be transported off-site by winds. The following conservative assumptions were used in calculating possible airborne concentrations of TCE, t-DCE, and VC:

a) Ground water at M-8 contains average concentrations of 0.018 mg/1 TCE, 0.842 mg/1 t-DCE, and 0.292 mg/1 WC. All flux concentrations of these substances has been assumed to volatilize into the atmosphere at the M-8 location.

b) Contaminated groundwater flux to the Mumford River is at a rate of 0.68 liters per minute (0.011 liters/sec) across the plume's down-gradient seepage face. Basic data for this calculations is contained in the October 1985 CEH report, where:

Q = KiA

- c) The breathing zone of an individual standing downwind is 2 meters from ground surface, with mixing taking place throughout this distance.
- d) Average wind speed and direction for the area is 10.2 miles per hour (4.48 meters per second) from the southwest.
- e) No dispersion or disipation takes place within or from the 2 meter by 42 meter by 120 meter corridor that separates the zone of contamination from the nearest receptors (residents) to the northeast.

The following calculations conservatively estimate the concentrations of TCE, t-DCE and VC in the air at the nearest long term receptors:

a) TCE:

If:
$$W_{tce} = (Q)(C_{tce})$$

where, W_{tce} = mass flux of TCE in ground water Q = groundwater flux C_{tce} = concentration of TCE in ground water

then
$$W_{\text{tce}} = (0.011 \text{ 1/sec}) (0.018 \text{ mg/1})$$

= $1.98 \times 10^{-4} \text{ mg/sec}$

and: Va = (A)(W)

where, Va = volume flux of air through breathing zone
A = cross sectional area of air flow
W = wind speed

and, A = (42 meters)(2 meters) = 84 square metersthen, Va = $(84 \text{ m}^2)(4.48 \text{ m/sec})$ = $376.32 \text{ m}^3/\text{sec}$

and: $B_{tce} = (W_{tce})/Va$

where, Btce = breathing zone concentation of TCE

then, $B_{tce} = (1.98 \times 10^{-4} \text{ mg/sec})/(376.32 \text{ m}^3/\text{sec})$ = $\frac{5.26 \times 10^{-7} \text{ mg/m}^3}{8.92 \times 10^{-5} \text{ ppb}}$

b) <u>t-DCE</u>:

If: $W_{t-DCE} = (Q)(C_{t-DCE})$

where, W_{t-DCE} = mass flus of t-DCE in ground water Q = ground water flux C_{t-DCE} = concentration of t-DCE in ground water

then, $W_{t-DCE} = (0.011 \text{ l/sec})(0.842 \text{ mg/l})$ $9.26 \times 10^{-3} \text{ mg/sec}$

and:
$$Va = (A)(W)$$

where, Va = volume flux of air through breathing zone

A = cross sectional area of air flow

W = wind speed

and, A = (42 meters) (2 meters) = 84 square meters

then, $Va = (84 \text{ m}^2)(4.48 \text{ m/sec})$

$$= 376.32 \text{ m}^3/\text{sec}$$

and: $B_{t-DCE} = (W_{t-DCE})/Va$

where, B_{t-DCE} = breating zone concentration of t-DCE

then,
$$B_{t-DCE} = (9.26 \times 10^{-3} \text{ mg/sec})/(376.32 \text{ m}^3/\text{sec})$$

= $2.46 \times 10^{-5} \text{ mg/m}^3$

$$= 6.15 \times 10^{-3} \text{ ppb}$$

c) <u>VC</u>:

If:
$$W_{VC} = (Q)(C_{VC})$$

where, W_{vr} = mass flux of VC in ground water

Q = ground water flux

 $C_{
m vc}$ = concentration of VC in ground water

then,
$$W_{\text{vc}} = (0.011 \text{ l/sec}) (0.292 \text{ mg/l})$$

= $3.21 \times 10^{-3} \text{ mg/sec}$

and:
$$Va = (A)(W)$$

where, Va = volume flux of air through breathing zone

A = cross sectional area of air flow

W = wind speed

and, A = (42 meters) (2 meters) = 84 square meters

then,
$$Va = (84 \text{ m}^2)(4.48 \text{ m/sec})$$

= $376.32 \text{ m}^3/\text{sec}$

and:
$$B_{vc} = (W_{vc})/Va$$

where,
$$B_{VC}$$
 = breathing zone concentration of VC
then, B_{VC} = $(3.21 \times 10^{-3} \text{ mg/sec})/(376.32 \text{ m}^3/\text{sec})$
= $8.53 \times 10^{-6} \text{ mg/m}^3$

$$= 3.36 \times 10^{-3} \text{ ppb}$$

To summarize, conservative average ambient air concentrations of 8.92×10^{-5} ppb of TCE, 6.15×10^{-3} ppb of t-DCE, and 3.36×10^{-3} ppb of VC have been estimated to exist at the nearest receptors to the zone of contamination.

<u>Surface Water</u>: As mentioned, contaminated ground water will discharge to the adjacent Mumford River. Impacts on the water quality of the river can be estimated by calculating a dilution factor that is based upon the ratio of the contaminated ground water flux to the annual average discharge of the Mumford River.

$$D_{SW} = (Q_{GW})/(Q_r)$$

= (0.011 1/sec)/(1269 1/sec)
= 8.70 x 10⁻⁶

where,
$$D_{sw}$$
 = dilution factor Q_{gw} = ground water flux Q_r = annual average Mumford River discharge

Based upon the average concentrations derived in Table 1, the concentrations in the river are conservatively estimated as follows:

TCE =
$$(18 \text{ ug/1})(8.70 \times 10^{-6}) = 1.56 \times 10^{-4} \text{ ug/1}$$

t-DCE = $(842 \text{ ug/1})(8.70 \times 10^{-6}) = 7.30 \times 10^{-3} \text{ ug/1}$
VC = $(292 \text{ ug/1})(8.70 \times 10^{-6}) = 2.53 \times 10^{-3} \text{ ug/1}$
RISK ASSESSMENT

As discussed in the Exposure Assessment section, the primary pathways associated with off—site exposure to TCE, t—DCE and VC are transport by air and surface water. This Risk Assessment section will evaluate the chemical concentration levels estimated to exist within these air and surface water pathways in terms of relevant standards and toxicity criteria.

TCE is considered a Group B (probable human carcinogen) substance, and VC is a Group A (proven human carcinogen) substance. Potential lifetime cancer risks will be calculated for exposure to their estimated pathway concentrations. Because t-DCE is considered a Group D (not enough evidence to evaluate potential carcinogenicity) substance, exposure to its pathway concentration will be evaluated in terms of TLV-TWA criteria (Threshold Limit Value - Time Weighted Average).

AIR: Risks associated with pathway concentrations are estimated assuming a typical 70 kg adult, breathing 20m³ of air per day, is living at the site boundry. Potential carcinogenic risks for TCE and VC are calculated as follows:

a) TCE:

$$R_c = (C_{tce}) (Pf_{tce}) (1/70 \text{ kg}) (20 \text{ m}^3/\text{day})$$

= $(5.26 \times 10^{-7} \text{ mg/m}^3) \times (4.6 \times 10^{-3} (\text{mg/kg/day})^{-1}) \times (1/70 \text{ kg}) \times (20 \text{ m}^3/\text{day})$

 $= 6.95 \times 10^{-10}$

where, $R_{\rm C}$ = carcinogenic risk $C_{\rm tce}$ = projected concentration of TCE in air ${\rm Pf}_{\rm tce}$ = potency factor of TCE (USEPA) ${\rm 70kg}$ = average adult weight (USEPA) ${\rm 20~m}^3/{\rm day}$ = average amount of air breathed by average adult per day (USEPA)

p) <u>vc</u>:

$$R_c = (C_{vc}) (Pf_{vc}) (1/70 \text{ kg}) (20 \text{ m}^3/\text{day})$$

$$= (8.53 \times 10^{-6} \text{ mg/m}^3) \times (2.5 \times 10^{-2} (\text{mg/kg/day})^{-1}) \times (1/70 \text{ kg}) \times (20\text{m}^3/\text{day})$$

$$= 6.06 \times 10^{-8}$$

where, R_C = carcinogenic risk

C_{VC} = projected concentration of VC in air

Pf_{VC} = potency factor of VC (USEPA)

70kg = average adult weight (USEPA)

20m³/day = average amount of air breathed

by average adult per day (USEPA)

Table 4 summarizes projected airborne contaminant concentrations, TLV standards and potential lifetime cancer risks.

TABLE 4

AIRBORNE EXPOSURES, STANDARDS AND RISKS

| | Projected | | Potential |
|----------|-----------------------|----------------------|------------------------|
| | Airborne | | Lifetime |
| | Concentration | TLV | Cancer |
| Chemical | <u>(ug/m³)</u> | (ug/m ³) | Risk |
| TCE | 5.26×10^{-4} | 2.70×10^5 | 6.95×10^{-10} |
| t-DCE | 2.46×10^{-2} | 7.90×10^5 | |
| vc | 8.53×10^{-3} | 1.00×10^4 | 6.06×10^{-8} |

Projected lifetime cancer risks for airborne TCE and VC are both far less than 1 in 1,000,000 which is generally considered statistically insignificant. Projected concentrations of t-DCE, not classified as a carcinogen, are far less than 1/1,000,000 of the TLV; the health risks are also, thusly, not considered significant.

<u>Surface Water</u>: Risks associated with pathway concentrations are estimated assuming a typical 70 kg adult drinks 2 liter/day directly from the Mumford River, adjacent to the discharging zone of contamination. In that the area is served by public water supplies, this is highly unlikely and overly conservative. The point of treating the Mumford as a drinking water source adjacent to the site, however, is to place incidental ingestion by potential recreational users in perspective. Actual risks associated with contact recreation would be expected to be several orders of magnitude below these calculated values; contact would be intermittent, and incidential ingestion would be less than 2 liters per day. Potential carcinogenic risks associated with TCE and VC are calculated as follows:

a) TCE:

$$R_c = (C_{tce}) \times (Pf_{tce}) \times (1/70 \text{kg}) \times (2 \text{ liter/day})$$

=(1.56 x 10⁻⁷mg/1) x (1.1 x 10⁻²(mg/kg/day)⁻¹) x (1/70 kg) x (2 liter/day)

 $= 4.93 \times 10^{-11}$

where, $R_{_{\mathbf{C}}}$ = carcinogenic risk

C_{tce} = projected concentration of TCE
Pf_{tce} = potency factor of TCE (USEPA)
70kg = average adult weight (USEPA)
2 liter/day = average amount of water
ingested per day (USEPA)

b) <u>VC</u>:

$$R_c = (C_{vc}) \times (Pf_{vc}) \times (1/70kg) \times (2 \text{ liters/day})$$

$$= (2.53 \times 10^{-6} \text{ mg/l}) \times (2.30 \text{ (mg/kg/day)}^{-1}) \times (1/70 \text{ kg}) \times (2 \text{ liters/day})$$

$$= 1.69 \times 10^{-7}$$

Table 5 summarizes projected surface water contaminant concentrations, MCL standards, NOAEL standards (t-DCE), and potential lifetime cancer risks.

TABLE 5

SURFACE WATER EXPOSURES, STANDARDS AND RISKS

| | Projected Surface Water | | | Potential Lifetime | |
|----------|----------------------------|--------|---------------|------------------------|--|
| | Concentration | MCL | NOAEL | Cancer | |
| Chemical | <u>(ug/l)</u> | (ug/1) | <u>(ug/1)</u> | Risk | |
| TCE | 1.56 x 10 ⁻⁴ | 5 | - | 4.93×10^{-11} | |
| t-DCE | 7.30×10^{-3} | - | 350 | | |
| VC | 2.53×10^{-3} | 1 | • | 1.69×10^{-7} | |

Projected lifetime cancer risks for daily ingestion of Mumford River water are far less than 1 in 1,000,000 for both TCE and VC; the risks are, therefore, considered statistically insignificant. Projected concentrations of t-DCE, not classified as a carcinogen, are approximately 50,000 times less than the NOAEL (no observable adverse effects level), as set by the USEPA Office of Drinking Water. Health effects are, thusly, considered insignificant.

SUMMARY AND CONCLUSIONS

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Although the etiology of contamination in the vacinity of M-8 is undocumented, the aerial extent is localized. Given site security and the existence of public water supplies, the occasions for inadvertant direct exposure seem remote. Whereas the contaminated area lies directly adjacent to the river that receives groundwater discharge, contamination is undoubtedly mixing with surface water.

The noted contaminants, TCE, t-DCE and VC occur in concentrations equal to 1.5%, 73% and 25.5% of the mass balance, respectively. Whether this is indicative of a relatively old or recent incident is unknown. The physical and chemical properties of these compounds, at their noted

concentrations, will tend to make them move with ground water flow. They will ultimately discharge to the Mumford River and volitalize into the atmosphere.

The potential receptors in the area include local residents and employees of local enterprises. Pathways of exposure are through the air, and through contact with the Mumford River. Concentrations of the contaminants are calculated to be very low in both pathways, and the risks associated with exposure are attendantly calculated to be negligable.

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PHOENIX ENV. SERV. INC 61, 210 3001

ANALYTICAL RESULTS

ATF - Davidson Property 1 Main Street, Northbridge, MA

10/17/96 + 1/17/97(*)

| | | | 1,2- | | | |
|-------------|------|-------|------------|------------|---------|--|
| Well ID | PCB | TCB | DCB | VCL | Acetone | Barium |
| M-1 | | | | | | 1. The state of th |
| M-2 | | | | | | |
| M-3 | ND | 3.8 | 2.6 | ND | 103. | |
| M-4 | | | | | | |
| M-5 | | | | ~ ~ | | 4.63 |
| M-6 | 93.3 | 31.4 | 28.2 | 17.8 | ND | ~ ~ |
| M-7(*) | ND | ND | ND | ND | ND | |
| M-8 | ND | 5.1 | 82.6 | 62.5 | ND | 1.05 |
| M-9 | 52.9 | 9.8 | 7.9 | ND | ND | |
| M-10(*) | ND | ND | ND | ND | ND | |
| M-11(*) | ND | ND | ND | ND | ND | F. F. |
| | | | | | | |
| Geoprobe(*) | | | | | 200 | Other |
| SB-1 | ND | ND | ND | ND | ND | 7.(a) |
| GP-1 | ND | ND | ND | ND | ND | ND |
| SB-2 | ND | ND | ND | ND | 290. | 8.(a) |
| GP-2 | ND | ND | ND | ND | ND | ND |
| Gr Z | ND | KD | I(D | | 112 | 110 |
| SB-3 | ND | ND · | ND | ND | ND | ND |
| GP-3 | ND | ND | ND | ND | ND | ND |
| - | | | | | | |
| SB-4 | ND | ND | ND | ND | ND | ND |
| GP-4 | ND | ND | ND | ND | ND | ND |
| | | | | | | |
| SB-5 | ND | ND | ND | ND | 200. | 22.(a) |
| GP-5 | ND | ND | ND | ND | ND | ND |
| | | 0.000 | /07-22-2-1 | pana. | 222 | - |
| SB-6 | ND | ND | ND | 25. | ND | ND |
| GP-6 | ND | ND | 50. | 74. | ND | 7.(b) |
| CD 7 | MTO | M | ND | ND | ND | NID |
| SB-7 | ND | ND | | | ND | ND ND |
| GP-7 | ND | ND | ND | ND | 1417 | MD |

Notes:

Barium values given in mg/L (ppm).

All other values given in ug/L (ppb).

Underlined values exceed MCP Method 1 GW-2/3 limits.

ND = Below Quantitation Limit.

-- = Not Sampled.

SB- = Soil boring

GP- = Groundwater

Other: a = Methylene chloride (compound also detected in blank)

b = 1,2,3-Trichlorobenzene